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The March of Events

FAR off as the election is, far off as even the nominating conventions are, we have entered upon the Presidential campaign, whether we wished to or not. The early stages of it consist of more or less foolish speculation and talk for talk's sake, such as "Can Mr. Roosevelt carry New York?" "Will Wall Street put up money for him?" "Can an election be won without a great campaign fund?" "What Democrat can command the support of the business world and carry New York?"

Premature as all this talk is, it brings the campaign fairly within sight, since we have turned the calendar year; and it has more or less influence on all our affairs, from our private business plans to our international relations. For instance, if no campaign had been in sight there would have been less criticism of the administration's conduct in Panama and there would probably have been no organized effort to defeat the treaty in the Senate. If no campaign were in sight there would be less talk about business depression and the uncertainty of the future; for men and journals that wish to find reasons to discourage the nomination of Mr. Roosevelt and to fabricate campaign arguments against him naturally seize dramatic events and untoward conditions. In a word, we are come again into the quadrennial period of the politicians' too great prominence. When we find no better reason for anything that disturbs us, we say that it is a Presidential year. Thinking so and saying so make it so, and the campaign thus comes to have more or less influence on our every-day life in spite of sound reason and good sense.

MR. ROOSEVELT'S STRENGTH AND WEAKNESS

TO an independent journal that champions neither party and no candidate it seems probable—practically certain, in fact—that the early threshing of loose straw will the more surely leave the wheat to Mr. Roosevelt. His enemies in his own party could do him no greater service than to keep emphasizing the fact that he is not the servant of Wall Street. They win votes for him every time they say that the great corporations do not like him.

They win votes for him, too, every time they say that he was too rash in recognizing Panama; for every great government has recognized it, and thereby practically approved our action. We have waited the full lifetime of a generation to get to work on the canal; we have had long diplomatic negotiations; we have sent commissions to the isthmus; we have shown infinite patience in clearing the way to construct a great work for the benefit of the whole world; and the people want the canal cut, in spite of the criticism of party enemies and of those who get

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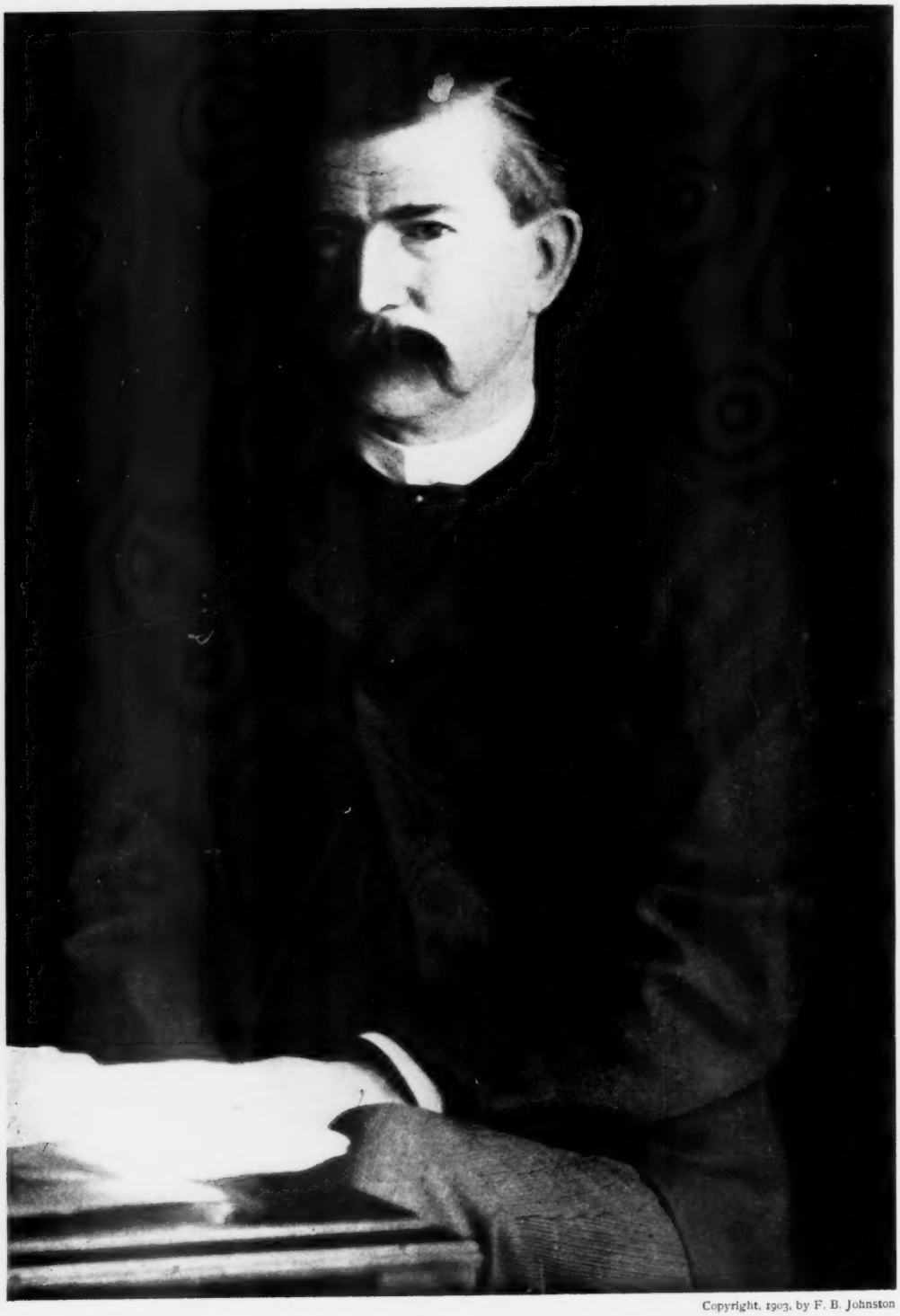

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GOVERNOR LUKE E. WRIGHT OF THE PHILIPPINES

ADMIRAL ALEXIEFF

THE RUSSIAN VICEROY OF THE FAR EAST

their information about international affairs from books. To say, then, that the President acted too hastily—well, Senator Gorman knows by this time how to aid Mr. Roosevelt if he should wish to help him again. Perhaps the only policy under the wide heavens or within the reach of the wildest imagination upon which the South would stand with Mr. Roosevelt is his Panama policy. Yet it was this that Senator Gorman chose as a campaign issue against him!

From an outside point of view it looks as if Mr. Roosevelt were peculiarly fortunate in the folly of his enemies, within his party and without it. The greatest risk he runs is of estranging men who are his friends by his cock-sure manner. He has a most attractive personality. He has as many personal friends, perhaps, as any man living. But he is not a good listener. He interrupts; he says "yes" and "no" upon apparently insufficient knowledge. Thus he produces the impression of making "snap judgments." He once sent for a committee of gentlemen to confer with him about a matter of public importance—as an oft-repeated story goes. He received them most cordially. He told them anecdotes. He recalled pleasant personal experiences with them of years before in a most interesting way. The half-hour was gone. As they were bowing themselves out he remarked that the subject about which they had come a thousand miles to talk with him was "all right." They had no chance to say anything. Stories like this are told in almost every State.

A mere mannerism, perhaps, but it has had more to do with keeping in the public mind the fear that he may act rashly than any definite action of his life.

Yet the way seems as clear before him as it ever seemed and as it could seem at this distance from the convention. Whether he can carry New York will depend chiefly on the character of the Democratic candidate. But New York is nominally, though not certainly, a Republican State.

CONDITIONS THAT MAKE FOR STEADINESS IN BUSINESS

THE further we go into the present period of financial and industrial depression—so far as it may properly be called a period of depression—the more noteworthy differences does the economic student find from previous periods and the sounder the business condition of the country seems to be.

The chief change of all is that the speculative man, the speculative mood, the speculative enterprise are at a discount. The conservative and productive man and mood and enterprise are dominant. Visions of sudden wealth are less common, but steady progress in legitimate industry continues.

Our agricultural wealth has become so enormous that even the millions made (and lost) by those who speculate in these products are as nothing compared with their total value. Our dozen principal crops last year were worth more than three hundred billions.

The high price of cotton has brought temporary embarrassment to mill-owners, but it has given a new impetus to southern agriculture. Better methods of cultivation, better care of land, the reclaiming of worn-out lands—these and other practical improvements will follow the increasing prosperity of the farmers. The South is a new industrial South. For several decades gradual improvement has been going on. But the change in many parts of it has lately been by leaps and bounds. The mass of the people have more money than they have ever had, before the Civil War or since. In fact, the old order of life knew no such prosperity as now prevails.

In the railroad world there is greater security. Rate wars are past; earnings are good; and the policy of publicity enables the public to know what the roads are doing and what they are earning.

There is some depression in the iron and steel market, but there is no probability of a period of loss. It is reported that the increasing scarcity of lumber will make the iron and steel market continuously wider. The time is thought to be near when steel-frame construction will still more generally displace wood construction in almost all classes of buildings, including residences.

The farmers and manufacturers of the country have a much larger home market (to say nothing of the expanding foreign market) than they ever had before. Our population is 80,000,000. Nearly 1,000,000 immigrants came to our shores last year. They must be fed and clothed and sheltered.

The labor world, after a wild debauch of unreason, is returning to the common sense

Photographed by Kenney

RICHARD OLNEY

WHO HAS BEEN RECENTLY TALKED OF AS A POSSIBLE DEMOCRATIC CANDIDATE FOR PRESIDENT

Photographed by Cheyne

GENERAL SAMUEL CHAPMAN ARMSTRONG

FOUNDER OF HAMPTON INSTITUTE AND THE PIONEER IN MODERN INDUSTRIAL TRAINING FOR THE NEGRO AND THE INDIAN

that distinguishes the American workingman as an individual.

Men who take a long and wide view of industrial conditions feel that the check put on reckless industrial organization and on the tendency to monopoly by the President's enforcement of the law has been salutary. However the Northern Securities case may be decided by the Supreme Court of the United States, no shock will be given to the financial world.

The effect of the Presidential campaign will be toward conservatism and not toward disturbance. All the conditions, therefore, that are visible are conditions that make for steadiness and away from panic.

THE PASSING OF THE SPECULATOR AND THE COMING OF THE INVESTOR

THE period of slackened business activity has now continued for several months, yet there is neither a panic nor fear of a panic. The business and financial world shows a steadier mood than it showed in any previous time of slackened prosperity, and thus gives proof of a greatly improved permanent condition. The evidences of this fundamentally improved condition are interesting, for they show the passing of a speculative era and the coming of an era of careful investment. The United States may, in fact, now be said definitely to have reached the status, long held by England, of a country of investors rather than of speculators. This is perhaps the most important financial fact of the last decade.

Consider how rapid has been the rise of many kinds of securities into the class of good investments. It was not many years ago when only two kinds of property were regarded as safe forms for trust funds—good real-estate mortgages and government bonds. The additions to the list of investments, which time and even depression are proving safe, have been numerous and of many kinds. The law has allowed savings banks a greatly increased range of investments and they have turned out to be sound. The great insurance companies, too, have pursued a similar course.

Before 1896, or thereabout, few railroad securities were entirely safe. The bonds of a few great companies were classed among the best securities. But as a class, railroad stock and even bonds were under speculative suspicion. The general railroad reorganization has put many of them on a safer basis—some on a permanently safe basis. The large companies have leased or otherwise absorbed many small companies, guaranteeing the bonds of the small companies and thus adding to their safety. American railroad securities are not likely again, as a class, to sink to a doubtful level, and since the best of them have acquired high character, the tendency of the others is to rise. It is now more distinctly disreputable to wreck or to mismanage or even to overcapitalize a railroad than it was during the era of general wrecking and mismanagement. An investing public is more exacting than a speculative public was.

The large volume of securities of street-railways of comparatively recent development have been brought into the investment market, and while there are cases of gross overcapitalization, the general tendency is toward regular dividends and the prompt payment of interest.

With the general growth of wealth, the number of perfectly safe municipal bonds has increased. Many such bonds issued for electric plants and water-works are among the best investments.

We have even reached a stage of development where certain industrial securities are beyond suspicion. Some of the best managed of these have now paid dividends so long and so regularly that their stock takes rank with the best railroad stock. As a general class "industrials" are yet justly under suspicion, for any group of adventurers may organize anything and put dishonest stock on the market. But the older and more conservative "industrials" that have proved themselves are as safe—for a long time to come, at least—as any other class of investments, and the investing public is now so accepting them.

Such is the change that the actual possession of wealth has brought. So long as we dealt in expectations we could not apply the real investor's care to securities. Now that we have real wealth we demand greater security, and we get it. It is a radical change in the financial mood—a great advance in character.

We may take a measure of this advance in character, as well as of our increased wealth, by recalling the foreign investments that Americans are making. Not only have we

almost cleaned Europe of good American securities (where a few years ago so many good and bad American investments were held), but we now buy British consols and other European State bonds. We have large investments in Mexico. Foreign governments place loans here, and applications from the undesirable are refused by us. The Cuban loan will be held here. We shall presently be investing considerable sums in Porto Rico and in the Philippines. We already have large investments in Canada, which will become larger.

It is the speculator who causes panics. It is the investor who keeps the financial world steady. Our present experience proves that as a people we have passed the speculative era. In the whole history of our development no more important change has come.

THE LABOR UNIONS' RECENT LESSONS

THE labor unions have had an experience, naturally enough, parallel to the experience of the reckless organizers of industry, and they, too, seem to be coming to a more conservative mood. No organizations catch the speculative fever more quickly than some of these. If all the world seems to be getting rich, they must strike for higher pay. When industry seems arrogantly successful, they, too, must show arrogance. The connection between "booms" and strikes is logical and obvious.

But with them also a day of reckoning and steadiness is coming. They have during the last year or two caused the public, including their own members, incalculable loss. And now, when wages are reduced in many industries and men are laid off in some, strikes are fewer. They are always fewer when wages are falling than when wages are rising—a fact that shows the natural working of the mind of a mob. And there are many other evidences of a return to common sense. For instance, at the last convention of the Federation of Labor a socialistic resolution was defeated, and it received only about half as many votes as were cast a year before for a corresponding resolution.

But an unfortunate economic law here asserts itself—that when depression comes the wage-worker suffers first and worst. Although there have been loss of work and reduction of wages in some trades, which in the aggregate mean the loss of many millions to workingmen, the cost of living has not been reduced. In the period of rising wages the cost of living rose, but with the decline of wages it has not fallen. In one respect at least it has increased, for a hard winter is come. This means a smaller margin of comfort for many. To some it will mean suffering. And the misfortune is that those who suffer most are likely to be the weakest and the most innocent of wrongdoing.

The most important definite result of the unions' undisciplined indulgence in strikes has been the organization of associations of employers that use the same methods of warfare that the unions have used. These have come in time to hasten the return of union management to the more conservative mood that all American organizations swing back into after a period of booms and recklessness. Thus labor, too, seems likely to come into soberness and manly consideration of its obligations to society.

PROGRESS OF THE PANAMA INCIDENT

THE Panama incident may be regarded as practically closed. The new Government has now been recognized by all the principal governments, including the British. The threat of war by Colombia, to reduce Panama to subjection, may possibly cause some diplomatic and even military trouble, though such a result seems unlikely. The Colombian remonstrance against the action of the United States, although it was expressed by General Reyes in a dignified way and included a request to submit the subject to the Hague tribunal, can have no effect. If our action was right there is no question to submit.

The debate on the treaty in the Senate provoked Senator Gorman to speak of the President as a Napoleon and to call his action the "most flagrant act of transgression that has ever taken place in the history of the country."

Senator Gorman, in his search not for a principle of opposition to the administration, but for a plausible excuse, had a caucus of Democratic Senators held, and he tried to pledge them to oppose the ratification of the treaty with Panama. But some refused to be bound, and others were immediately instructed by the Legislature of Louisiana

and by emphatic expressions of public opinion in other States to vote for the treaty; for the public opinion of the South heartily favors it.

The information laid before Congress by the President and the revelations made in Paris at the meeting of the Panama Canal Company have made it even plainer than it was before that the administration pursued the only practicable course. Definite evidence came out in Paris that the Colombian authorities had planned to delay negotiations with the United States till the French company's concession might be extinguished. Then the Colombians hoped themselves to sell the company's property and rights to the United States for $40,000,000. The further that events and inquiry reveal the Colombian attitude the worse it appears.

But that, too, is now past history. It can have only an academic interest. The public sentiment of the world has practically approved the action of our Government. The public sentiment of our own country emphatically approves it. The criticism—some of it harsh and intemperate, although it has come from respectable sources—is, to a degree, temperamental. It is chiefly the criticism of men who differ by temperament, and therefore by necessity, with Mr. Roosevelt, and who cannot approve his manner of doing even those things that they commend. His promptness is to them rashness. His vigor they regard as a sort of insane strenuousness.

The way seems clear soon to begin work on the canal, and the Panama incident will not play a more important part in the campaign than the Philippine incident played before it under the forgotten name of "anti-imperialism."

POSSIBLE DEMOCRATIC NOMINEES

WHO the Democratic candidate for the Presidency will be not even newspaper canvasses of public opinion can foreshadow, because the party has no central principle to stand by. The other party, for that matter, has no superfluity of great principles, but the Republicans have at least an active personality. The Democrats seem willing to nominate anybody that can win. The talk of Judge Parker, of New York, is without enthusiasm because he is unknown both to the leaders and to the masses. But he is much talked of because it is hoped that he might carry New York. Senator Gorman is spoken of because—because he is intriguing for the nomination, and he may secure it.

There is more earnest talk than has before been heard of Mr. Olney, who is a strong personality and was the most distinguished figure, next to his chief, in the second Cleveland administration. Born in 1835, a graduate of Brown and of the Harvard Law School, he was a successful corporation lawyer in Boston when, in 1893, he became Attorney-General. He had been interested in politics, but he was too independent, too intolerant of small bosses, to be a politician. As soon as he entered the Cabinet his local reputation as a man of force broadened into national fame: he occupied a place in the public eye comparable to that of Secretary Hay or Secretary Root today. When the Chicago riots of 1894 halted the mails he advised using federal troops, and when the "Debs case" dragged the question into court he fought it through with vigor and skill. In 1895 he became Secretary of State and was sponsor for the "Venezuela message."

His nomination is hardly possible. Though he may have the support of Massachusetts and some neighboring States, he cannot count even upon a solid New England vote. Even with all New England for him, Mr. Olney could scarcely carry the convention, because he is still hated by the populist and the labor and socialist elements of his party. To the populists he was always a graven image of financial conservatism and legality; to the labor unionists a personification of the ruthless power of the Government. His plea for labor unions before the Federal Court in the District of Pennsylvania, and his denunciation in 1902 of the coal operators, have been only partial atonement for his guilt. Too many of the class whom the rise of Bryan has lifted into the Democratic organization will never forgive him through all eternity.

His natural appeal is to those who admire Mr. Cleveland; like the latter, he lacks an ingratiating manner and personal popularity; and he lacks also Mr. Cleveland's long record of conspicuous service, which makes mere popularity a secondary consideration.

Massachusetts, however, in suggesting him offers another proof that the party is recovering from demoralization and feels the need of a really strong character.

SENATOR SMOOT AND THE MORMON HIERARCHY

THE agitation to induce the United States Senate to expel the Mormon Senator Smoot, of Utah, will not succeed unless it can be proved that he has a "plural" wife; and it is understood and generally admitted that no such charge can be proved against him. That he is theoretically or doctrinally a "polygamist" may be true; for, although the Church has openly, at least, forbidden plural marriages since they were made illegal, one of its cardinal doctrines is that men attain greater glory (or something to that effect) by plural marriages. The doctrine of polygamy is a part of the Mormon creed. And Senator Smoot is one of the Twelve Apostles of the Church.

But this is quite another matter. A man may believe in what he please—the having of one wife or a dozen; but, if he do not violate the law against polygamy, there is no lawful reason to punish him. And it is well that there is not—fundamentally well for the safety of our institutions.

The organized movement against Senator Smoot may in part be traced to personal political opposition, and in part to opposition to the Mormon hierarchy as a political machine. There is a more or less vague idea that in some way it may be proved that there is in Utah, and to a degree in some of the adjacent States, a union of Church and State. No doubt there is such a union. The hierarchy may decide and has decided who shall be elected to many political offices. But, since every apostle and bishop and elder is also an American citizen, and every American citizen may be a boss if he can, it is difficult to see how the power of the Church in politics can be lessened by the Senate. It can be lessened by the citizens of Utah if they have a mind to lessen it, but in no other way. The work of "disestablishing" the Church under these conditions is missionary and political work that must be done within the region of the Church's domination.

THE GOVERNORS OF THE PHILIPPINES

GOVERNOR TAFT'S return from his post in the Philippines is a triumphal return. He has laid the foundations of order and civilization in long-misruled oriental populations of great differences of character, and justified the most daring experiment in government that we have ever tried. His last important act was almost his most important—the purchase of the friars' lands for a little more than $7,000,000, with the approval of the Church of Rome, which was won by patient diplomacy. These lands will be paid for by bonds of the Philippine Government guaranteed by the United States, and they will be sold to occupants and settlers to the great economic benefit of the people. The grave scandal and disquiet of the friars' authority over the people is thus happily ended. In the Cabinet Mr. Taft follows one of the most brilliant Secretaries of War that we ever had; but no man could follow Mr. Root with a better outlook for success.

Mr. Luke E. Wright, who succeeds Mr. Taft as Governor of the Philippine Islands, is a man of strong qualities, and he has had the benefit of these several years' experience as a member of the commission. The criticism that has been made of him, because he was reared in a southern State and is therefore unfit to deal generously with colored peoples, is singularly ungenerous. There is every reason to suppose that he will prove a worthy successor to Governor Taft.

PAY OF TEACHERS AND WHAT IT DENOTES

A COMMITTEE of the National Educational Association has begun an investigation of teachers' salaries, and an article in the *Harvard Graduates' Magazine* has started a discussion of the pay of college professors. Teachers' wages have always been low. In this country the monthly average for men is $49 and for women $40, and many receive far less—some as little as $15 to $20. But certain advantages are a partial offset. The long vacation affords a chance to rest, to study, or possibly to engage in different work. The social distinction—not unlike that of the ministry—is to an extent another makeweight.

But other causes keep them not only ill paid, but undervalued. Many teachers look to the school as a makeshift—women till they can marry, men till they can establish themselves in business or a profession. These do not take their trade seriously; they do not prepare for it, and they devote their most serious thought to escaping from it. Under such conditions the calling is crowded with women who have failed to marry and with men who are incompetent—a survival of the

unfittest. Many of these lead disappointed lives, and make the schools unattractive.

An increasing proportion of teachers are of another sort. There have always been competent men and women to make deliberate choice of the profession and duly prepare for it; their number is growing and the facilities for preparation are improving. Such an institution as the Teachers' College of Columbia University trains experts, who are beginning to receive better salaries and the consideration given to the members of other professions. In our larger cities good positions are increasing, and in rural districts the plan of collecting children into a central building instead of scattering them in detached schoolhouses is creating places for qualified teachers.

This raising of the professional standard is the only thing that can lift the pay to a legitimate level. So long as school boards accept untrained youths, so long the capable teachers will receive less money and respect than they ought to receive.

In college the salary is generally larger. A professor at Harvard may earn as much as $4,500 to $5,000, at Yale $3,750, and so on down. Besides the security of the position and the social standing, the intellectual freedom is a strong attraction. In the leading colleges "the teachers are not the slaves of sect or party. . . . If they have outgrown early creeds in politics or religion, they are not forced to juggle with language or conscience." None of these precious privileges can quite console a man who is growing gray in some small college that pays only $1,200 to $1,500. He is unable to save for old age or to educate his children. Such colleges must continue to accept third- and fourth-rate men unless the weaker institutions will unite or America can produce an enormous crop of philanthropists.

The economic rule will hold that better pay would secure better teachers, and better teachers would lift our educational work. We have not yet become really in earnest about educational work. When we do, the very strongest men and women will enter it, and they will be everywhere the real leaders of our intellectual life.

LAST YEAR'S LARGE BENEFACTIONS

THE sum of the larger benefactions for philanthropic purposes last year in the United States, although it exceeded $85,000,000, was considerably smaller than the gifts of either of the two preceding years. In the list of philanthropies the gifts to promote education are the largest, being about $40,000,000, besides nearly $8,000,000 that were given for libraries. The larger donations to "charities" (including hospitals and the like) which are classified by the statisticians were only half as great as the gifts to schools and colleges. "Religion" received less than $4,000,000. The gifts both to charitable institutions and to churches are, of course, greatly understated in these totals of large benefactions, for they always receive more in small donations, which are never reported and catalogued, than in large ones.

The giver of the largest sum last year to philanthropic uses was Mr. Carnegie, whose benefactions were more than $16,000,000. Mr. John D. Rockefeller's gifts, chiefly to educational institutions, are reported to have been $12,000,000.

This princely generosity to education—and there were many other gifts of millions to schools—shows that the most astute men of affairs whom we have produced regard the strengthening of our universities and colleges and schools as the most helpful way in which they can use their money for the public good; for the giving of large sums of money by rich men is now, in the case of almost every one of them, the result of careful and even scientific investigation of the whole subject of helpful philanthropy. No rich man escapes misjudgment of his motives (few poor men do, for that matter), and we hear much of the shrewdness with which they give money for the building of monuments to themselves. But it is well known that Mr. Carnegie and Mr. Rockefeller, for examples, direct their philanthropies with the same care for results as they direct their other activities. They have considered thoroughly, each from his own point of view, whether hospitals, or museums, or libraries, or churches, or schools, or other things will yield the best return to mankind for financial help. It is therefore significant of the educational earnestness of our period that so large a part of all the great benefactions goes to schools and libraries.

The man who feels sure that he could spend $85,000,000 a year better than the men who give it may be wiser than they, but he may be merely more opinionated.

It is probable that the great American philanthropists have reduced helpful giving to a more exact science than it was ever before reduced to. In spite of misjudgments of their motives and of other criticism, it is true, too, that their benefactions are keenly appreciated and that they bring enormous benefits to society.

In spite of all this, the economist can never quite get away from the conviction that universities and colleges and schools and hospitals and museums ought to be provided and equipped in a democracy at the public expense. There is no better way for rich men to spend their money than these ways, and it would be ungracious to do less than heartily to applaud them; but a perfectly developed and robust democracy would have no need of such help. Whether their giving retards the development of a robuster democracy, perhaps no man is wise enough to say; and in the meantime it is certain that many a youth receives better training by reason of these benefactions than he could otherwise receive—better training, too, in many departments of work and learning, than the youth of any other country receives.

THE RELIGIOUS PRESS ON HERBERT SPENCER

THE liberal religious press of the United States and England has spoken in the highest praise of the work and influence of Herbert Spencer; and it thus gives a striking measure of the profound change of orthodox feeling that has come within twenty-five years. Darwin, Spencer, Huxley, and Tyndall were long the objects of especial condemnation by both the religious press and by the pulpit in England and America. It was they who were meant when ecclesiastics spoke of "profane and vain babblings and the opposition of science, falsely so called." Spencer in particular, being the most comprehensive of the group, was the object of bitter assault. Darwin's offense of applying the theory of evolution to biology was aggravated by Spencer, who applied it to everything, including religion itself. The ecclesiastics who replied to him often made heavy work of it—as that bishop did who tried to crush Huxley by asking whether it was through his grandfather or his grandmother that he claimed descent from a monkey.

We have come into a better, wider, more liberal time, and this old conflict is now seldom renewed in any form. The main idea of evolutionary philosophy which seemed so revolutionary a generation ago (and *was* revolutionary, but in ways then hardly suspected) has filtered into the common thought of men. An incidental benefit that it brought, hardly less than its main benefit, is the wider toleration that it encouraged—the hospitality of mind to new ideas, which is the greatest gift of science to society. We have learned, as no preceding generation knew, that religion itself, as all other priceless things, thrives best in an atmosphere of perfect freedom from dogmatism and abuse.

The broader view is well expressed by the New York *Outlook*, a distinctly religious journal, though a liberal one:

> "We are inclined to think that his most considerable influence is that which he has exerted on the religious thought of his age, and that it has been largely beneficent."

And by the *Anglican Church Times* (of London):

> "A man of unfaltering honesty, of invincible belief in goodness, a laborious and patient worker, he has conquered the ungrudging respect of those with whom he was least in sympathy, and whom he understood least of all. . . . He did for the narrow English thought of the nineteenth century what Kant had already done for the wider thought of Europe in the eighteenth century. He compelled Englishmen—a most unwilling, stiff-necked race—to recognize the limits of their knowledge and the unknown reality that lay beyond. . . . His teaching has certainly cut the ground from under many pious believers, and their individual failure is lamentable; but he did this only because they stood on radically false ground."

SUCCESSFUL REFORMATION OF THE DRAM-SHOP

THE movement to elevate dram-shops in England to something of the dignity of clubs has been very successful, and its experience is an important addition to our knowledge of the regulation of the drink habit. Under the general management of Lord Grey, who has made an interesting report of the movement through the London *Times*, dram-shops have been conducted by the "trust." Respectable men own them. Drinks are sold, but food also is generally served; disorder is forbidden; the houses are made attractive; they are places

of respectable refreshment instead of mere drinking and lounging places. The aim is "to convert the public house, as far as possible, from a mere drinking-bar into something more closely resembling a well-conducted club." The gist of the report of the Central Public House Trust Association, made after a tour of inspection, is this:

"Houses in which, at the best, the interest and therefore the object of the managers were the sale of intoxicants up to the limits allowed by the law, having regard to the apparent capacity of each customer to carry his liquor steadily, and which, in some cases, were distinctly centres of moral deterioration for the neighborhood in which they are situated, have been beneficially transformed. They have become houses to which respectable people of both sexes and all ages can resort with pleasure and comfort and, amid an atmosphere physically and morally wholesome, can obtain wholesome refreshment, solid or liquid, with no encouragement to the preference of stimulants, but rather the reverse, and with a firm prevention of all approach to excess."

The movement is spreading fast over England, and it contains a lesson for us that, whereas the extermination of the saloon in most places is impossible, its reformation is a task worthy of the best members of society, and is a possible task.

THE FEAR OF SOCIALISM IN GERMANY

THE ruling class in Germany cannot quiet the fear of socialism. Baron von Kardorff, one of the Conservative leaders, declared in the Reichstag not long ago that Germany was "rolling with wind velocity into the socialized state of the future." The remedy that he proposed was "to withdraw the suffrage for five years from Socialists who profess to be revolutionists or republicans." He incidentally expressed fears about the reliability of the army in case of revolution. All this sounds ominous, and at the first glance seems warranted by the rapid increase of the Socialists' vote throughout the empire. But the German electoral system makes them comparatively powerless in practical legislation.

The Socialists polled at the general election last summer about 3,000,000 votes, or two-fifths of the total. But they are massed in the cities and in industrial districts, and they elected only a few more than one-fifth of the delegates to the Reichstag—81 members out of 397. It must be remembered, too, that their vote was swelled by a large number of men who are not really Socialists, but who voted with the Socialist party as the only means of expressing dissatisfaction with some particular policy of the Emperor. Some of the causes of the growth of the Socialistic party are temporary and would disappear with a more liberal government.

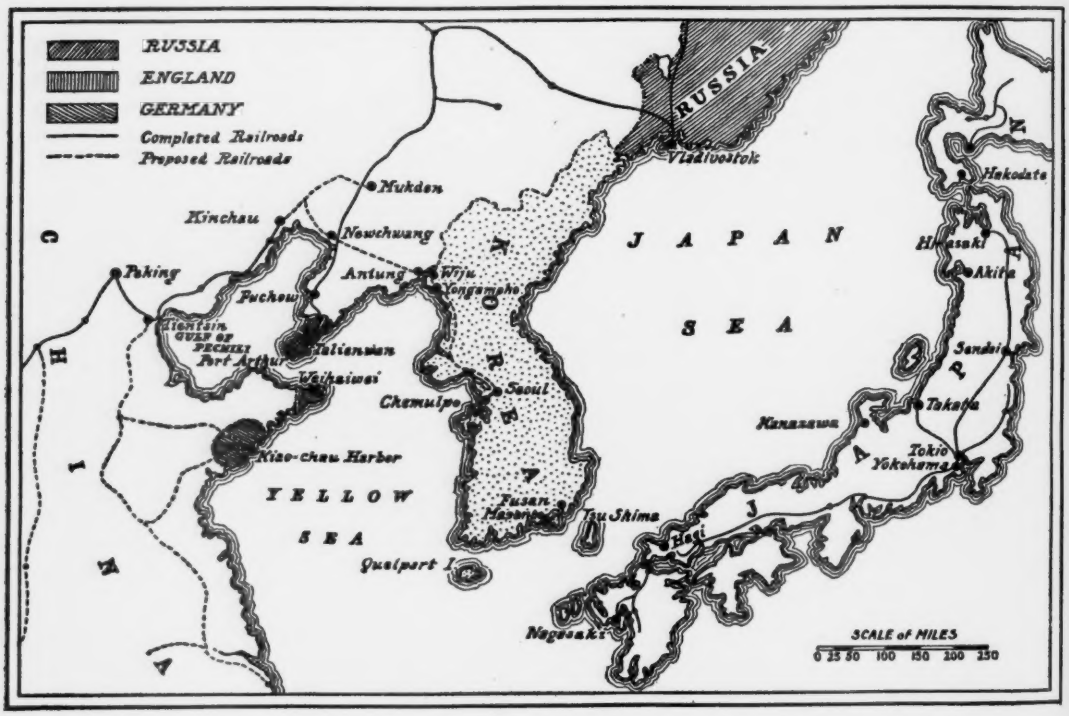
But, even if the party continues to grow, it cannot hope to win practical power, except by an open revolution, which is not feared. For the Government of Germany has three branches—the Reichstag, the Bundesrath, and the Kaiser with the Imperial Cabinet. The powers of the Bundesrath are much larger than of the Reichstag. The Bundesrath is composed of delegates appointed by the sovereigns of the twenty-five States of the empire, and this body not only originates nearly all the bills which subsequently go to the Reichstag, but its powers to nullify the Reichstag's legislation are supreme; and the Bundesrath and the Kaiser have the execution of all laws. In the legislatures of the twenty-five German States there are scarcely any Socialists, because of the property qualifications and other restrictions on suffrage that antedate the founding of the empire in 1871. The Socialists are powerless to influence the politics of these States or the appointment of their officers. Moreover, the constitutional rights and powers of the Kaiser are very comprehensive, and include the full control of the army and of the navy, the undisputed power of the appointment of all public officers, the power to declare war and to conclude peace, and the power to manage the foreign policy of the empire. Besides, no doubt two-thirds of the population of the empire are monarchical in sentiment. Even many of the Socialists are believers in the monarchy, and perhaps not one-tenth of them at present favor a violent revolution.

The further growth of the Socialistic party, therefore, is not at all certain, and even if it do continue to grow, it could not hope, under the present election law, to control even the Reichstag. Even if it should control the Reichstag it would not control the country or the Government. As to the army, it is safe to say that it would not again lend itself to a bloody suppression of such a popular revolution as occurred in 1848, but for all other purposes it is loyal to the Emperor.

THE WORLD-WIDE DANGER OF THE JAPAN-RUSSIAN CONFLICT

THE inherent conflict between Russia and Japan—the Russian policy requiring practical control on the eastern Asiatic coast and the expansion of Japan requiring that *she* should be mistress there—would be serious enough if it involved only these two nations. But the danger is that it may at last involve all Europe as well. England, Germany, and France all have important Asiatic interests—England in particular; and the whole world is interested in the future of China. This, indeed, is the a definite stage of the great conflict which seems inevitable at some time between Russia and England. It is, therefore, an ominous time. The greatest visible unsolved national problems of the future may be thrust at once upon the world.

The contemplation of these grave dangers brings cause for supreme thankfulness that, whatever come, we have a self-maintaining continent of our own, and that, with wise guidance, there is no necessary reason why we should be drawn into the conflict. Whatever we may be able to do—if we can do anything—to avert or to postpone a general



MAP SHOWING THE RELATIVE POSITIONS OF JAPAN, KOREA, AND THE RUSSIAN POSSESSIONS

great prize of war and of diplomacy. Dominance in this part of the world means ultimately dominance over China.

The struggle thus involves the future of three nations—Japan, whether she shall have a great future; Russia, whether she shall become the great Asiatic power; and England, whether her control of India and her Asiatic trade shall remain secure. If a world-wide war be prevented it will be a distinct triumph of civilization; and, if it come, it will shake European civilization to its foundations, and plunge us at once into war that may sweep over the rest of the world will be a clear gain to civilization.

GENERAL S. C. ARMSTRONG AND HIS WORK

A GREAT educational movement—meaning far more than the proper training of the Negro, much as that means—had its beginning in the work of General Samuel C. Armstrong at Hampton Institute. He did more than any other man to make the training of the hand a part of our fundamental conception of education. He has been dead only ten years, but the idea that he

My last interview with Armstrong was on a Sunday at Hampton, late in April, 1893. The afternoon service in the beautiful church was over. The choir had lingered at the General's suggestion to sing some of the old slave hymns. The singers had retired; we two only remained. The youngster of 1860 was now prematurely old, his hair was white, his left side was paralyzed, but his eye was undimmed and his brain unclouded. We talked through the twilight and into the darkness, his theme being the school, the Negro, the country; and never in all the years had I heard from him more intelligent and hopeful expressions or greater enthusiasm for the future. His soul was marching on with faith and courage undaunted. We left the church and parted beneath the shining stars—I to go North, he in a few days to say: "My work is done. I must go."

The Hampton Institute stands as Armstrong's monument. Since his death ten years have passed. But so strong is the spiritual life of the organization that everything which he originated and planned has gone forward with a progressive, cumulative power. The creation of an organism composed of human elements that retain the power of vital growth after the inspiration and will of the creator is withdrawn is positive testimony to the genius of originality and spirituality. Armstrong was fortunate in his associates and successor at the Hampton Institute. Through his spiritual legatees the continual growth of his great "experiment station" is assured, and his memorial stands a witness to his life-work.

THE PROLONGATION OF THE WORKING PERIOD

THERE is now enough exact information about healthful and natural living to warrant the conclusion that human life could be very greatly lengthened. Especially is there enough such information about nutrition—the proper foods and the best way to eat them. The lives of all persons who are born with robust constitutions could be lengthened far beyond the average age now attained, and not only could they be greatly lengthened, but they could be kept vigorous for a longer period. An old age of decaying faculties is not an intellectual or social gain, but an old age with perfectly preserved faculties is an inestimable gain. There is, in fact, no other end so well worth attaining as the prolongation of the working period of great men—thinkers, writers, administrators—if their work can be continued at its best. Much of the best work of the world has been done by old men, and if men who produce great results in youth or in middle life could have the period of their best activity greatly extended, the gain to society would be incalculable. Since the same methods that will prolong the working period will make men more vigorous in youth and middle life, the proposition becomes the most important in the whole range of human problems.

"Preventive medicine" we already have, but it yet deals chiefly with the large tasks of sanitation and the contagious diseases. We have not developed, in general practice, what might be called individual preventive medicine. Many a man after breakdown begins puts himself in the care of a trained physician. The wiser thing would be to put himself in the care of a physician before breakdown began. Preventive medicine should, in fact, begin in childhood. Every human being should ascertain by experiment and by the skilful attention of a trained man of science precisely what routine of life is best for *him*—not what is best for another or for most persons, but for him alone—what food, what hours of sleep, what exercise, what clothing.

If any considerable part of society should take to scientific living, what a multitude of follies and conventionalities would fall into disuse! All long dinners, all late functions, all stuffy dwellings—these would go the way of other barbaric things that we have discarded. The simple life would become the only respectable life. Our food bills would be reduced by half or more. Most of the drug stores and all the patent-remedy factories would become bankrupt. There would be physicians who seldom saw sick persons, for their practice would be chiefly among the well, and it would consist in keeping them well.

More than that—and this is the constructive and consoling thought built up in M. Metchnikoff's new great book on "The Nature of Man"—if men so live as to preserve their bodies and their faculties in harmony till a perfectly natural death come in old age, they would be as willing and as ready to die as they are to lie down to sleep. To die would seem the natural and desirable as well as inevitable thing. When we live so naturally that death will not come prematurely and will come only for natural causes we shall no longer dread it—we shall have an "instinct" to die.

This thought as the basis of a cheerful

philosophy—a kind of religion, if you so choose to call it—is justified by the advances of the prevention of disease. It is a conception of life and of a definite progress in human society and in happiness that the conquest of disease has now for the first time made possible. For all the religions and philosophies have endeavored to reconcile men to short lives, to premature death, to unfinished tasks. It is science that for the first time offers the possibility of really finished life, of perfectly natural and unregrettable death, of a longer time for cheerful labor, of a lengthened period of wisdom and of the perfect play of mature faculties—for an afternoon of maturer work that shall be as long as the morning was for its energetic beginnings.

THE PRESIDENT AND WALL STREET

BY

SERENO S. PRATT

IT is a serious thing for a chief magistrate to arouse the antagonism of the country's business men. It is equally serious for business men to be hostile to a President simply because he is doing his duty.

Yet President Roosevelt and certain financial interests are in opposition. Many influential bankers and merchants cordially approve of his policies. But certain interests—and those the most powerful in the financial world, in control of great railroad and industrial corporations and chains of banks—would like, for their own reasons, to defeat him for another term. It is not surprising, however, that so many find this difficult to believe. In the last two Presidential campaigns the financial interests supported the Republican party and spent their money lavishly to elect its candidates.

WHY WALL STREET OPPOSES THE PRESIDENT

Indeed, the political and financial situation can be put in a form like this:

Roosevelt Publicity Antitrust law enforcement	vs.	The Standard Oil Company Coal trust The Northern Securities Company

Accordingly, these questions naturally present themselves:

1. What acts of the President led to this antagonism?
2. What were the reasons for his policy?
3. What are the motives of the financial interests opposing him?
4. What is the character and the probable result of their opposition?

The acts leading to the antagonism are three:

1. The enactment last February, in accordance with the President's policy, of the so-called publicity law creating the Bureau of Corporations in the new Department of Commerce and Labor.
2. The commencement, on February 19, 1902, of the suit by the Attorney-General against the Northern Securities Company for violation of the Sherman Antitrust law.
3. The White House conference, October 3, 1902, on the anthracite coal strike, the President's invitation to John Mitchell, of the United Mine Workers, to attend this conference, and his subsequent appointment of a commission to settle the strike.

First, as to publicity. Briefly, the law confers on the Bureau of Corporations the same powers over the industrial corporations that the Interstate Commerce Commission has over the railroads. It authorizes the bureau to obtain from the trusts information of two kinds regarding their financial condition and their operations: (a) Information to guide the President in his recommendations to Congress and in his enforcement of laws for the protection of the public interests; (b) information to be published for the guidance of investors and for their protection against such evils as overcapitalization and speculative direction of corporations.

It has been asserted—though formal denial has been made—that information demanded of the Standard Oil Company by this bureau was refused.

THE POLICY OF THE STANDARD OIL COMPANY

Such a refusal would be in keeping with the persistent policy of the Standard Oil Company, which has never made any public statement of its affairs, except when compelled to do so in courts of law or by legislative committees.

The Standard Oil Company is conducted by men of the highest order of ability, on the principle that business is war and that success is to be attained best by the military organization of industry. It has developed machinery of the utmost perfection for obtaining information regarding the operations of rivals, and at the same time surrounds its own operations with the impenetrable mystery of a Masonic lodge. It moves secretly, quickly, and powerfully to accomplish its ends. It is usually able to attain results legally, but many of its acts can be justified only on the ground of military necessity.

If this colossal financial power, extending all over the country, refuses to give to the United States Government information authorized by law, the constitutional right of the federal Government to deal with interstate corporations on the basis of a fair publicity may have to be tested in the courts.

The situation as to the Northern Securities case and the coal strike is well understood. The settlement of the coal strike, however, is satisfactory. No hardship has been worked to either side, and the public entered upon this winter with an assurance of an ample supply of fuel. As to the Northern Securities case, the principle of "the holding company"—that latest device of "high finance" for concentrating the control of the railroads of the country forever in a few hands—is soon to be upheld or overthrown by the Supreme Court of the United States.

Immense as are the interests involved in the Northern Securities combination, and far-reaching in its effects as the Supreme Court decision may be, the opposition to Mr. Roosevelt is not so much that he instituted the suit against the company as a monopoly in restraint of trade as that *he did not give notice in advance.*

FINANCIAL INTERESTS DEMAND ADVANCE INFORMATION

The financiers of the Northern Securities Company maintain that in view of the magnitude of the financial interests concerned, and in view of all that they had done for the Republican party, they were entitled to special consideration. Consider what that means. Here were certain acts committed that the President believed to be a violation of law. Was it his duty to inform the powerful interests that he intended to bring suit against them, in order that they might prepare for the action and take measures to protect themselves in the stock market from the effects on prices which such an action might reasonably have? Should he favor the violators of law at the expense possibly of thousands of others in the stock market who, though not parties to the violation of law, would not secure the same advantage of advance information?

That the President did not notify them was the very point which the President most desired to emphasize. He enforced the law against the rich and the powerful as impartially as against the poor and weak. It is easy to understand with what amazement and indignation the financial interests learned what the President had done. They had contributed liberally to the campaign fund raised to elect President McKinley and yet Mr. Roosevelt did not recognize the obligation which this fact established.

THE PRESIDENT'S ATTITUDE

President Roosevelt has given no one authority to speak for him on these matters, but he has spoken frequently for himself, and the following is undoubtedly a fair statement of his position:

He is no enemy of capital. He has no hatred of wealth. He believes in the protective tariff. He stands upon sound money. He has spoken for a more "elastic" currency. His position is at the opposite pole to populism. But he refuses to be controlled by Wall Street. He declines to notify corporate interests in advance when his official duty compels him to proceed against them. He believes that it is his duty to enforce the law. He found a law on the statute-books that prohibited monopolies in restraint of trade. He believed that

Mr. J. Pierpont Morgan, Mr. James J. Hill, and others had created such a monopoly by uniting three rival railroad systems under the Northern Securities Company. He directed his Attorney-General to bring suit to enforce the law.

He saw a terrific contest in progress between capital and labor in the anthracite coal fields and the country in a fuel famine. He had evidence submitted to him that riots and bloodshed and far-reaching horrors were imminent. Other efforts failing to settle the strike, he called the contestants before him, and by his influence compelled them to submit their differences to the tribunal of an impartial commission.

He recognized the economic benefits of organization and combinations in the industries. He had no desire to interfere in the operation of natural laws or to strike at the rights of property. But he witnessed abuses in the promotion of trusts, the marketing of their securities, and the management of their properties such as the world had not experienced since the collapse of the South Sea and the Mississippi Company bubbles nearly two centuries ago. There were gross overcapitalizations, lying prospectuses, extravagant profits to promoters and underwriters, secret agreements for the sale of the stock of "insiders," the payment of dividends to facilitate the marketing of stock, while at the same time bonds had to be issued to furnish working capital. The President saw these things and looked around for a remedy that would reform the evils without in any degree shackling commercial enterprise. He found it. In one word it was "Publicity."

The President stood for the fair deal, the equal opportunity, the enforcement of law against rich and poor alike, the recognition of the right of labor to organize, but the insistence upon the American doctrine of the "open shop"—in brief, the conditions of life and business that would enable "every American to carry his own weight."

Here are a few significant sentences from his last annual message:

"Publicity in corporate affairs will tend to do away with 'ignorance.'"

"The purpose is not to embarrass or assail legitimate business, but to aid in bringing about a better industrial condition, a condition under which there shall be obedience to law and recognition of public obligation by all corporations, great or small."

"We drew the line against misconduct, not against wealth."

"Publicity can do no harm to the honest corporation. The only corporation that has cause to dread it is the corporation which shrinks from the light, and about the welfare of such corporations we need not be oversensitive."

"Whenever either corporation, labor union, or individual disregards the law or acts in a spirit of arbitrary and tyrannous interference with the rights of others, whether corporations or individuals, then where the federal Government has jurisdiction it will see to it that the misconduct is stopped, paying not the slightest heed to the power or position of the corporation, the union, or the individual, but only to one vital fact—that is, the question whether or not the conduct of the individual or aggregate of individuals is in accordance with the law of the land."

"Therefore the work will stand. There shall be no backward step."

SECRET INFLUENCES OF WORK

The Wall Street opposition to Mr. Roosevelt has not been open. It has been a secret influence, but none the less at work to overthrow him in the Republican convention if possible; if not there, in the election, provided an acceptable Democratic candidate is nominated. The Wall Street leaders have not publicly criticized the President. But all through the spheres of influence of these men there is a plain manifestation of antagonism. The newspaper mouthpieces of these financial interests—the financial "court circulars"—voice, as far as they dare, this opposition; and in the clubs and bank parlors it is whispered that the business welfare of the country requires the defeat of a President who has dared to enforce the law against the most powerful corporations and communities of interests in the world.

What is the motive of this financial antagonism? No friend of Mr. Roosevelt will deny that there are many business men who dislike him because they think him "unsafe." Business men, as a rule, are ultra-conservative. They dread change, agitation, progress. Anything that disturbs prevailing conditions alarms them. For years it has been a common view to say of Mr. Roosevelt that he acts on his impulses—that he "does" things first and "thinks" afterward. True, Mr. Roosevelt is always moving. For twenty

years his activity has been simply amazing. Many people associate wisdom with repose, and the President is rarely in repose; so he is said to be unsafe. Only a few days ago one of New Yorks more eminent business man said:

"I am not opposed to Roosevelt because of his action in the Northern Securities case. On the whole, I think he was right in that. Moreover, I think he acted properly in regard to Panama, although I wish he had not been so precipitate, and I am fearful that he may act with similar haste in other international affairs. But I am opposed to him because he is unsafe. You never can tell what he is going to do next. There is something strange about his mental make-up. He says and does things that make business men uneasy."

THE PRESIDENT NEVER A BOLTER

Now, this opinion is at strange variance with the facts of Theodore Roosevelt's political career. For twenty years he has been prominently before the country. When a young man, just out of college, he was a member of the New York Legislature. When only thirty years old he was his party's candidate for Mayor of New York. Although a Republican, he was continued in office by a Democratic president as chairman of the Civil Service Commission. He was the first police commissioner in years to enforce the laws and cleanse the city of New York. Assistant Secretary of the Navy, Governor of New York, Vice-President and President—this is a wonderful record for a man forty-five years old. And the remarkable thing is that in spite of Mr. Roosevelt's reputation for "impetuosity" and "recklessness," his political record is one of absolute consistency. He has gained the reputation of being independent, but he never bolted a party ticket. His devotion to his party has been constant. In fact, the men who think that he is "impetuous" do not know him for what he is—namely, one of the ablest politicians in this country, one of the few reformers who have been practical, one of the few independents who have always been "regular."

Nevertheless, it is probable that to the end of his career some people will always regard him as erratic. Even in his college days he seems to have had that reputation. Jacob A. Riis says that his classmates "laughed at his oddities, at his unrepressed enthusiasm, voted him 'more or less crazy,' with true Harvard conservatism." Yet Mr. Riis says that he "acted upon the coolest judgment, and however much he might seem to be speeding toward extremes he never got there." So now.

Even his publicity programme is very moderate, and the Bureau of Corporations develops conservatively. There are sincere folks who honestly believe that the President made a grave mistake in recognizing labor leaders in a strike. They may not appreciate the seriousness of the facts the President possessed, but they believe in good faith that he aroused the labor unions to hopes and to undertakings fatal to business prosperity. When it is recalled that the people, as a rule, do not elect "brilliant" men to the Presidency, and that they refused that office to Webster, Clay, and Blaine, it is not surprising that Mr. Roosevelt's strenuous way of talking and acting causes a good many to shake their heads in doubt. It is a good rule for a President who wants a second term to do nothing but to look solemn in his first term.

THE ANTAGONISM OF FINANCIAL INTERESTS

But, after all, this criticism would not be important in the situation were it not for the antagonism of the great financial interests. Some of these have accomplished many notable and enduring works for the benefit of the country. Mr. Morgan is just now an unpopular man. A year ago in a position of undisputed leadership at home and with his genius feared abroad, he is now in the position of the proverbial pitcher that went to the well just once too often; and the world is talking only of his latest one or two failures, paying no attention to his splendid achievements in the past—those labors in behalf of railroad peace and business stability and the extension of American finance and commerce which entitle him to a high place in American history. Mr. Hill, a man of marvelous gifts of organization, has been a great creator of wealth, not merely for himself, but for the country. He has reduced railroad operation to an exact science.

Such men as these charge President Roosevelt with catering to anticorporation sentiment and the hatred of wealth in order to further his ambition for a second term. They say that he has struck a blow at American enterprise by blocking what they maintain

is the legitimate advance toward concentration of control in order to prevent the wastes of competition. The Standard Oil interests are definitely opposed to publicity. They are fond of saying that reports and statements and book-keeping prove nothing, and that the only guide for investors is the character of the men in directions of the corporations.

Moreover, some of these same interests were opposed also to Mayor Low in New York City during the last campaign for much the same reason—they could not "do business with him," and Mayor Low was defeated. It has not failed of public notice that since the election of the Tammany Mayor, McClellan, there has been a remarkable advance in the prices of traction and gas stocks in the city of New York. Is this merely a coincidence or is it cause and effect? In like manner millions of holders of American stocks are being made aware that the defeat of Mr. Roosevelt by "a conservative" would cause an advance in the prices of securities. This is the great bribe offered to American electors.

The power of the financial interests opposed to Mr. Roosevelt should not be minimized, and yet there is a power greater than they—the people. Wall Street is in disgrace just now. It has committed gross excesses in speculation and promotion, and if the people really get impressed with the belief that Wall Street is opposed to Mr. Roosevelt because it could not control him, the financial opposition may actually help him in the election. Even a rise in the prices of stocks on the prospect of his defeat might not tempt them into an alliance with this Wall Street opposition. It is, moreover, important to know that many even in Wall Street, and some powerful independent interests there, feel that the President has conferred a benefit upon it and the country by calling a halt to the excesses of promotion and speculation and corporate greed of power.

His policy is the enforcement of the law; and one who daily toils beneath the deepest shadow of the financial powers, who is in Wall Street though not of it, is amazed at the courage of a President who takes these great financial interests by the throat and says:

"Thou must obey the law!"

THE PRESIDENT AND THE PEOPLE

THE WORLD'S WORK sent a specific inquiry to representative, well-informed men in every State west of New York—men who are in positions to make accurate judgment of public sentiment—about the popularity of Mr. Roosevelt, and the answers are exceedingly interesting. The men who made these answers are all—so far as could be ascertained—outside both Senatorial influence and Wall Street influence. Most of them are Republicans, but some are Democrats. They are editors, lawyers, men of affairs—not office-holders. The first question asked was:

"Do you regard Mr. Roosevelt's nomination as assured?" Practically all answer yes. Only 2 per cent. say, blankly, no. Representative comments are such remarks as these:

"The West does not appreciate or sympathize with eastern opposition to him, nor does it pay any attention to Wall Street and its class interests."

"While there are rumors of threatened opposition, he cannot be beaten, barring accidents."

"His nomination is assured unless there be a party cataclysm which his strenuous ways may bring about."

"His nomination is as certain as any event can be that is six months ahead."

"While his nomination seems assured, there is an undercurrent of opposition by the allied banking and privileged interests in favor of Mr. Hanna."

"It is not absolutely assured. The forces against him control vast sums of money."

"The people are for him. The political machine is against him."

"The people are all for him."

"Even those who prefer Hanna concede the nomination of Roosevelt."

"Absolutely assured unless he makes some unexpected grave mistake."

The next question was: "Has there been any diminution of his popularity during the last few months?" Eighty per cent. of the answers from the West are "No." The others express varying degrees of doubt. Some of the explanatory remarks are:

"Although he is still strong with the people, there is sometimes a weariness shown when he is spoken of."

"Some diminution. The continued iteration by party leaders of his 'unsafeness' has slightly cooled the public mind. But he is yet very popular."

"The President's popularity in the Middle West has grown, not diminished, and it is still growing."

"He is as popular with the people as ever. But the party organs controlled by United States Senators are doing what they can to injure him."

"The people have faith in his sincerity and good intentions."

"No diminution. He has won the confidence not only of his own party, but of many Democrats."

"Stronger every day."

"He has never been popular in the South since his Negro policy developed." [From a border State.]

"No falling off in his popularity."

Another question was: "Has his policy in dealing with the trusts, etc., hurt him in the esteem of the people?" The answers show that this has increased his hold on the popular good will—almost unanimously. Some of them are:

"This is one of his strongest claims to the good opinion of the people."

"What he has done has helped him. If he had done more he would be still stronger."

"Business men here like his attitude, without regard to party."

"The stock-gamblers complain. Everybody else approves."

"To attack trusts was one of the most popular things that any executive could do. But attacking the Northern Securities Company was personal to the Northwest. If the question were put to the people here whether the 'merger' should be disorganized or Mr. J. J. Hill's plans carried out, nine-tenths of the voters would vote for Hill's plan."

"If his policy goes beyond the barking point and bites it will help him."

"It has helped him. But he is not radical enough to please the majority."

To the question whether the President's Panama policy is popular the answers are practically all in the affirmative. Many report, however, that the people have not paid particular attention to it nor expressed themselves. One correspondent (Kansas) writes:

"The West does not ask to see the inwardness of the matter. If it satisfies the Roosevelt conscience—that settles it with the West."

Others say:

"Our people [Louisville, Kentucky] want the canal, and they do not understand why we should not take advantage of a political revolution in Panama to secure it."

"Public opinion strongly approves it, but regards it as arbitrary."

The effort to ascertain the most popular and the least popular acts of the administration brought no satisfactory report of public opinion in general. Local feeling appears in almost every answer. The most unpopular act of the President, for example, in one part of the Northwest is reported to be his treatment of General Miles. In the beet-sugar region he is criticized for his insistence on Cuban reciprocity. The appointment of Mr. Payne to the Postmaster-Generalship is severely criticized in several States. In the far West the irrigation law is his most popular act. But these questions brought less instructive answers than any others.

In response to a request to write at some length about the popular attitude toward Mr. Roosevelt and his nomination, these correspondents have made it clear that in the Middle West and the farther West he is by far the most popular man in public life. His "straight ways," his "incorruptibility," his "independence of the politicians and of Wall Street," his "strong moral fiber," his quality as "a man of the people," his "courage," are spoken of by nearly all.

But there is some criticism, such as—

"He is playing politics too much. If he forsake his old candor and frankness for a trading policy he will invite defeat."

"Some of us are coming to fear that he, too, is a politician. Still he remains the best of the lot—head and shoulders above the others."

"The greatest danger to the President is his own early excessive popularity. He was at first too popular. We are given to hero-worship—then to hero-forgetfulness."

But the total impression given by these letters is the impression of an overwhelming personal popularity of the President in the West and of hearty approval of all the important actions and policies of his administration.

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THE WORK OF THE SCULPTOR AUGUSTUS SAINT-GAUDENS

BY

CHARLES H. CAFFIN

A CONTRAST frequently drawn between the man of affairs and the artist is that the former deals in facts, the latter in ideas. Moreover, in an age which is practical and inclined to materialism a great deal is made of this distinction, and often to the depreciation of the artist.

But what if your man of affairs have a strong vein of idealism and your artist bases his imaginings on facts?

Neither case is inconceivable; it is more common, indeed, than some people suppose. Napoleon was unquestionably in part an idealist, and what is it that raises up some men so far above the average that we call them Napoleons of finance and commerce? Is it only their grip on facts—the facts of things and of human nature? Is it not also their far-sighted vision into the future—their power to devise new combinations and managements of facts; in a word, a gift of superior imagination?

So it may not be far wrong to state the contrast differently as between mere facts and facts *plus* imagination. Suppose we sum it up this wise: while the mere knowledge of facts, the familiarity with, devotion to and even slavery to mere facts characterize the average man, it is a streak of idealism in others, a capacity to illuminate the facts by the light of their imagination, which lifts such above their fellows and makes them originators, creators, men of genius.

And what of the artist? Again the same distinction holds. There are some who cannot rise above the record of facts; they are the average. There are a few who can dip right down into the fact and pluck from it the heart. They, in *their* way, are men of genius. It is among these that we shall rightly include the sculptor Saint-Gaudens.

Yes, this habit of striking a cleavage between facts and ideas is certainly a very unreasonable one, and to suppose that the modern artist is mainly concerned with ideas is a mistake. The main tendency of the nineteenth century, as much in art as in

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THE SHAW MONUMENT

On Boston Common, opposite the State House

THE PURITAN

In Springfield, Massachusetts

the other affairs of life, was to get at the facts, and men as unlike as Millet and Whistler were great because they took the commonplace subjects ready to their hand, found the beauty that was in them, and through the power of their imagination made it plain to others.

It cannot be said that commonplace subjects have occupied the art of Saint-Gaudens, but many of them are such as a sculptor less gifted with imagination might easily have treated in a commonplace way. For the chief demand made upon American sculptors during a quarter of a century has been for memorials of great men, and with the lack of imagination that characterizes our average man of facts the insistence has been for portrait statues. Nor is it only a lack of imagination that this displays, but of logic and reasonableness also.

They propose to honor a great man, and devote seven-eighths of their money to the exploitation of his tailor—the man who made his coat and trousers! He did something, this great man, which made him worthy to be remembered; but there is no reminder of it in his memorial, only this ridiculous insistence on the facts which brought him down to the level of other men, now abominably out of fashion, oftentimes never in it—his clothes. So American sculptors frequently lament that they have had next to no opportunity of executing *ideal* statues; which again, in the light of Saint-Gaudens's art, may be judged to be, in a measure, their own fault.

For what he has done is to take the fact as he found it, trousers, frock-coats and all, and to discover the man beneath them—to reach through his imagination the soul of the fact, and by his capacity to idealize the fact, and make it ring true with powerful appeal to our imaginations.

THE CHILDREN OF PRESCOTT HALL BUTLER Copyright, 1904, by Augustus Saint-Gaudens

Saint-Gaudens comes of a blending of the Celt with the Latin—of a French father and an Irish mother; he was born in Dublin in 1848, brought up in this country, and taught his art in Paris. He is our greatest sculptor, ranking among the foremost in the modern world, and his name does not appear in the latest American edition of the

ONE OF THE ANGELS FROM THE MORGAN TOMB

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THE SHERMAN MONUMENT

At the entrance to Central Park, in New York City

At the entrance to Central Park, in New York City

Photographed by Turnbull

ADMIRAL FARRAGUT

In Madison Square, New York City

"Universal Cyclopædia and Atlas." Another example of the limitations of facts!

A great deal might be said of the way in which the craftsmanship which he acquired in Paris has been modified by his sojourn in America and by his absorption in American subjects. But, to avoid all technicalities, it may be summed up in the statement that, while no less nervous and refined than the best productions of the academic school in Paris, it is altogether freer and more natural—a breezier product, disengaged from theories and vigorously expressive of life—of the life and spirit of the American ideal

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as he conceives it. I have before me a letter which he wrote to me in 1901, shortly after his return from a prolonged stay in Paris. He is referring to the impression made upon him by the American art at the Buffalo Exposition, doubtless with recollection of the comparison of American with European art at the Paris Exposition of the year before.

"The directness and energy, the healthfulness and promise of it all impress me extraordinarily."

It is a generous recognition of his brother artists and represents very clearly the qualities which seem of prime importance to him and which characterize his own work. But we must add to them the quality of a very sincere imagination—one that has not expended itself in speculation or soared very far from earth, but is of that inseeing and sympathetic kind which has penetrated deeply into the inner heart of facts.

Note, for example, how he has treated the fact of Puritanism in the statue at Springfield, Massachusetts. He did not select the phases of it illustrated in Roger Williams or John Harvard, but the militant, aggressive type that pitted itself against kings and established the kingship of the people—a stern, dour type, angular and self-assertive. The figure grasps a Bible and a staff, and looks ready to enforce its interpretation of the one by cudgeling with the other; no pleasant figure, but to be reckoned with; a force as inevitable in its progression as time, as unyielding as granite. There is little of the Celt or Latin in this conception; both have been absorbed into the extraordinary receptivity of the artist toward the realities of the problem with which he was confronted.

Is it not worth while to remark, as evidence that there is no necessary gulf between art and the practicalities of life, that the quality of imagination illustrated in this statue is akin to that which makes men great in business—a clear, direct vision, comprehending all the circumstances of the case, but making sure selection of the essentials and then marshaling them into a large compact, homogeneous unity? And if men realized that this is how all great modern artists work, perhaps they would not so misunderstand the status of art and dismiss it as a triviality or wantonness.

Again, refer to Saint-Gaudens's conception of Lincoln. The statue stands in Chicago, hard by the waters of the great lake, with the vista of Lincoln Park stretching behind it—lifted up in grand isolation, as Lincoln himself was above the tides of passion of his time. It is absolutely free of any trick or device to arouse sentiment; the frankest, most soberly reserved statement imaginable of the man as he was. How many orators, think you, could succeed in satisfying our recollection or imagination of Lincoln without use of kindling metaphors

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MISS VIOLET SARGENT

Photographed by Van Rapp

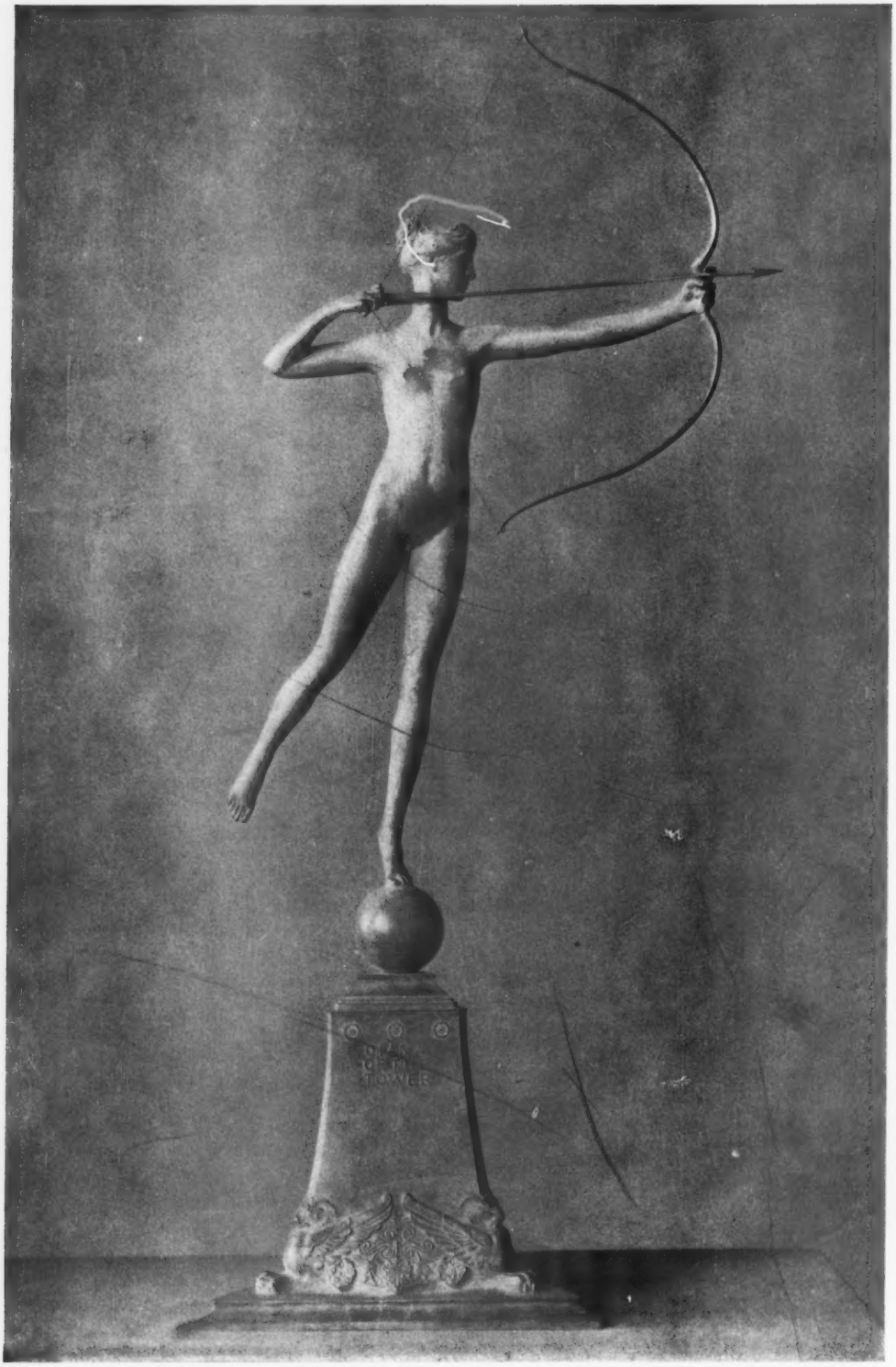
THE GARFIELD MONUMENT

In Philadelphia

PETER COOPER

In front of Cooper Union, in New York City

Photographed by Turnbull



Courtesy of Tiffany & Company

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DIANA OF THE TOWER

A replica of the figure on the top of the Madison Square Garden, in New York City

and glowing adjectives? How many would try? None, unless their own imagination and depth of feeling were so profound that through themselves rather than through their actual words they could make us share the breadth and sincerity of what they feel. Precisely so it is that Saint-Gaudens appeals to us in this statue.

Can there be a greater gift than this—the power to grasp a fact, to analyze it, to get at the very marrow of it and discover its relation to other facts and to the necessities of our life? It is the gift which removes mountains and all the litter occasioned by smaller intellects; which raises up Napoleons of business and invention, and is less at the highest service of mankind in the discoveries of medicine and surgery and in the illuminating influence of preachers and artists.

Again, how has Saint-Gaudens treated the fact of grief—an abstract idea? You will discover by a visit to the Rock Creek Cemetery, near Washington, District of Columbia. The figure, rather more than life size, is of bronze, seated upon a granite rock raised above the ground only by a low slab. In front of it, perhaps fifteen feet away, is a semicircular seat where you may rest and commune with the Presence, closed in from the outer world of the dead and the living by a hedge of dark cypress. The statue is the expression of the ineffaceable grief of a husband whose wife, a woman of beauty and social charms, was snatched from him with terrible abruptness. But no name appears, no word nor date nor personal record of any kind. The statue passes beyond a local and individual significance into the abstract mystery of the universal grief which sooner or later befalls every child of man; a grief supreme, unrelieved by any symbol or grace of faith and hope, the unequivocal, relentless pain of loss, such as even a believer in the first pang of his desolation must experience. No photograph can represent the solemn agony of this figure, but it can show the kind of way in which the artist has produced the impression. Here again it is by avoidance of any littleness of device whatever—by the bald, bleak statement of the essential thing—the *fact* of grief.

Or is it the fact of patriotism—devotion to the cause of duty? The Shaw Memorial, opposite the State House, at the top of Boston Common, illustrates it. It stands where the fact which it commemorates occurred, facing the street along which the young white leader passed with his colored troops *en route* to the front. Seldom shall you see as fine an idealization of a fact—a representation of the fact, at once so graphic and intelligible, and with so full a suggestion of its true inwardness. The prescience of death upon the leader's face, the intuition of self-sacrifice for the cause of country, or the dumb willingness to endure upon the faces of the blacks—I know not which is the more pathetic; while through the pathos of it all rings the praise-be-to-God of victory that cannot be gainsaid.

If you recall François Rude's masterpiece upon the Arc de l'Etoile in Paris—the decorative group representing "The Departure of the Volunteers of 1792"—you will obtain by comparing it with the Shaw Memorial a pretty clear insight into the special quality of Saint-Gaudens's imagination. The French artist, in the spirit of his day, idealized the fact by representing the young conscript nude and the rest of the soldiery clothed in tight-fitting Roman corselets which leave the arms bare. Notwithstanding this affectation of classicism, there is a rush and rhythm of emotion through the group which render it a plastic counterpart of the Marseillaise, composed by Roget de Lisle in that same year of national ecstasy. But since 1826, when Rude completed his masterpiece, naturalism has swept over the artistic world, a part of the great flood of scientific inquiry that has covered the world of endeavor and of art. Now it is the externals of the fact as well as the spirit of it that the artist must represent if he is to make a profound appeal to the modern mind. In the completeness with which Saint-Gaudens thus idealizes the fact consists his greatness.

Yet in this Shaw Memorial it would almost seem as if he had doubted his power to rely solely upon the facts, for he has introduced a symbolic figure of Victory floating over the heads of the soldiers. The more one studies it the less value does it appear to have, either as an integral part of the composition or as a contribution to the expression of sentiment. This interpolation of an ideal figure is repeated in his latest statue of General Sherman, erected this summer at the Plaza approach to Central Park, New York. But in this case the figure is at once related to the equestrian statue as a structural part of the whole, and adds very materially to the ex-

ABRAHAM LINCOLN
In Chicago

pression of feeling. It moves with the horse and rider, is an important feature in the general impression of irresistible, inevitable onward movement, and by filling up the space beneath the horse's head gives additional decorative grandeur and impressiveness to the whole bulk. Moreover, it serves its individual part in the aggregate of sentiment. The figure, both in gesture and in movement,

There is no doubt that this combination of a figure on foot with an equestrian statue presented a problem of unusual difficulty, and it is admirable how harmonious an *ensemble* the composition presents from every point of sight. The units mingle in one decorative mass, individually differing in character, but alike, nevertheless, in expression and in movement.

ROBERT LOUIS STEVENSON

echoes the relentless, fateful purpose of the general, grim, implacable, nowise to be turned aside. In the strained, set expression of the face and in the pain of the parted lips there is surely a suggestion of the terror and sadness of victory as the one thing only less terrible than defeat.

Yet decorative as this group is, it is marked also by a very strict reserve, which makes it more imposing than the more ornate and unrestrained equestrian statue of General Logan by Saint-Gaudens on the lake front, Chicago. It is also more characteristic of the artist, whose power consists not less in

GRIEF

In the Rock Creek Cemetery, near Washington

the restraint than in the vigor of his imagination. And the vigor is displayed in various ways—touched with blunt alacrity in the statue of Farragut, with solemn homely force in that of Peter Cooper, and then with nervous delicacy and refinement in his many low relief portraits. Among the latter may especially be mentioned those of Robert Louis Stevenson, Miss Violet Sargent, Miss Mildred Howells, and the children, respectively, of Prescott Hall Butler and of Jacob H. Schiff.

The delicacy of these reliefs may be due in part to the artist's early experience as a cameo-cutter, but it is the direct expression also of his exceeding sensitiveness. They are, indeed, a very intimate revelation of the man within the artist. For in his more important works this quality of sensitiveness may escape attention, though if one thinks a little closely it becomes apparent in the measure of his power to discover and to express the soul in the fact. Yet in these portrait reliefs it is more obviously represented. In them it is that the Celt and the Latin pronounce their characteristics. The refined precision and orderliness of arrangement is not more noticeable than their dreamy creativeness, so that they are full at once of character and of tender elusiveness. The latter, however, is the more unusual, the most essentially individual quality. It is expressed by sensitive variations in the swelling of the surfaces so that the outlines of the figures emerge from and fade into the background with infinite *finesse*.

This trait may well serve as the final note in a brief appreciation of this artist, because it is unanalyzable, the product of a cultivated instinct for beauty. And while I have tried to place Saint-Gaudens among the other workers of the world whose work is vital, by proving the kinship of his methods with theirs—namely, that it results from a most direct recognition of facts, itself the product of a powerful imagination—yet in all great men there is a residuum of something not to be grasped, ticketed, or pigeon-holed. Heaven forbid that some knowledge which we gain of them should abate our wonder in their work, and reduce us to the mental barrenness so admirably travestied by Mr. Gerald Stanley Lee in "The Lost Art of Reading":

> "Twinkle, twinkle, little star!
> Teacher's told us what you are."

PROFITS OF GARDEN AND ORCHARD

EXAMPLES OF SUCCESS BY MEN WHO HAVE APPLIED THE SCIENTIFIC METHOD TO THE CULTURE OF SMALL AREAS—A NEW ERA IN THE USE OF THE SOIL

BY

B. T. GALLOWAY

CHIEF OF THE BUREAU OF PLANT INDUSTRY, U. S. DEPARTMENT OF AGRICULTURE

THE modern horticulturist makes his living from the soil by concentration of effort on a comparatively limited area. He takes a considerable risk, for the crops he grows are in most cases more perishable than those produced by the farmer on large areas. It naturally follows that greater attention to detail and management is required for growing horticultural crops than for growing those ordinarily produced on the farm. The farmer is satisfied if his cereal crop yields him a profit of $15 or $20 an acre. The horticulturist—and I mean by this term the man who grows fruits or vegetables outdoors—must get from $50 to $5,000 per acre; and to do this must be able to make use of every possible fact which science and practice have shown to be of value.

THE POSSIBILITIES OF HORTICULTURE

It is only within the last twenty-five years

that horticulture has come to be recognized as a vital factor in the building up of a new husbandry and a new earth. The horticulturist is the pioneer in showing the immense possibilities of an acre of ground. He is a ceaseless, tireless worker, and the things that he has shown to be practicable give a stimulus to every operation which creates wealth from the soil.

Fruit and vegetable growing has been practised for ages, but it is only within the past few years that the production of these crops for money has been sharply segregated from farming or the growing of general crops, such as corn, wheat, oats, etc. The modern horticulturist may be a small-fruit grower who from his acre or two acres of ground is making a good living; he may be a specialist in grape-growing and from his five acres of selected vines be supplying a fancy market with a fancy fruit and receiving a net income of $600 to $800 per acre; he may be an apple king, or a peach or pear king, with his thousands of trees and modern facilities for harvesting, storing, and shipping; he may be a grower of oranges, lemons, figs, or dates, or he may have his acres covered with garden vegetables, forcing the soil to yield him two, three, and even five crops in a single year.

A LIVING FROM A TOWN LOT

In a small western town, some years ago, there lived a man who thought that horticulture could be made profitable on a small amount of ground. This man's capital was limited. The total area of land at his disposal was a little less than one acre. He had energy and ambition and a desire to make his efforts successful. The man selected as his two main crops strawberries and celery. One-fourth of an acre was devoted to strawberries, one-fourth of an acre to celery, and one-fourth of an acre to miscellaneous garden vegetables, to be sold in the town. The problem was so to handle these crops as to secure the very highest returns for the outlay involved. No other labor than that of the man himself was needed. The soil was ordinary, but was made rich by the application of stable-manure. The man developed a system which involved a shifting of crops each year. This, he gathered from what he could read, was necessary, first, to avoid diseases and insects, and, second, to rest the land. Eight thousand strawberry plants were put out on one-quarter of the acre, the plants all being grown in small pots so that they could be planted in the latter part of June, leaving the ground free up to that time for miscellaneous vegetable crops. The strawberries planted in June gave him a full harvest the following May and June, and from these plants the average yield amounted to $500 for his one-quarter of an acre. His celery he planted in the latter part of July on the ground that his strawberries had occupied. This celery was taken off in October, and the ground was therefore free the next spring for his vegetable crops. His one-fourth of an acre of celery handled in this way gave him $400 average yield. His miscellaneous vegetables, grown in rotation, such as green peas, green beans, beets, lettuce, and crops of this nature, gave him $400 more, making his receipts from his three-quarters of an acre $1,400, of which approximately $400 was expended for fertilizers, necessary help, etc. Such results could not have been accomplished except by rigid attention to details. His knowledge gained from the experience and experiments of others taught him that his berries could be made firm and bright-colored by the application of phosphate manures. He brought to bear the discoveries of the laboratory in preventing the attacks of serious diseases, which otherwise would have injured his celery. His promises to his customers were always fulfilled. His products were always put up in good shape, and thus by the application of scientific and business knowledge he made a success of his operations.

A TWO-ACRE GRAPE FARM

Near one of our eastern cities another man with little capital undertook, in the face of very grave difficulties, the growing of fancy table grapes for a fancy city market. Not many years ago it would have been largely a waste of money to invest in grape-culture anywhere in the United States, except in some very favored regions, on account of the serious diseases which attacked the fruit and the foliage. The man, however, believed that by the proper application of scientific knowledge he could be successful. All around him grape-growing had been abandoned. Two acres of grapes was the limit of his farm. The needs and wants of his market were studied carefully and critically. It was

found that certain large hotels and other establishments would always pay a fancy price for a fancy product of this kind, provided the supply could be depended upon. Varieties of grapes were selected to give a range of season extending over two or three months, and also to enable him to dress his packages in a fancy way with white, red, and black grapes mixed. His efforts were successful, as by properly fertilizing the vines and treating them for the prevention of diseases he was able to keep his yield at the maximum and to secure returns averaging from $600 to $800 per acre. Now, the story of how this man met diseases is important, as it emphasizes the advances made in horticultural science in recent years. The two worst diseases were confined to the fruit and the leaves, and were due to microscopic, parasitic plants. Science had shown how these little parasites lived over winter. It pointed out how their reproductive bodies were wafted from place to place in the spring, and how the young fruit and tender foliage were infected. Then it went further, and showed that by putting a simple chemical mixture on the fruit and foliage at the right time the parasites would be killed, the fruit saved, and the foliage kept on. The preservation of the leaves was a vital matter, as without them there would be no good wood for the next season's crop. The practical man had found, moreover, that it was a paying investment to bag each bunch of fruit. Thus the application of the chemical sprays kept the vines free from diseases, enabling them to make better growth, and the bagging of the bunches enabled them to come from their quarters as ripe and beautiful as nature could make them.

DEVELOPING A WORN-OUT FARM

One of the most important considerations in connection with horticultural work is the fact that virgin soil is not always the essential feature. Soil of this kind is now becoming so rare that proximity to good markets, facilities for rapid transportation and handling of produce, and ability to get good labor at the right time are more important factors. The thousands of acres of practically abandoned lands in the East offer a fertile field for the development of this work.

Almost within sight of Washington there was a worn-out farm of 500 acres which was offered to the writer at one time for $1,500. The writer could not use it, but he had with him an energetic man, Mr. M. B. Waite, who was up to that time more or less of a theorist in horticulture. He secured this farm. It was practically sterile, covered in large part by pine woods, but contained a considerable quantity of land which he believed could be successfully cultivated. Capital was not abundant. The use of stable-manure was out of the question. The problem was to make this land become at least self-supporting as soon as possible. Orchard fruits—the pear, the apple, and the peach—were selected as the specialties to be grown. Good markets were within easy reach and shipping facilities were accessible. In order to achieve the best results, only a portion of the farm was cultivated at first. Nitrogen gatherers—that is, the green crops, such as cowpeas, crimson clover, etc.—were planted in order to bring organic matter into the soil. Young trees were secured, rigidly inspected for the presence of injurious insects, and thoroughly fumigated. The trees, of course, would not come into bearing for some years, and the problem was to make the place self-supporting in the meantime. This was accomplished by planting catch crops—fancy cantaloups and sweet potatoes for the fancy markets of the cities.

Mr. Waite, in the course of his scientific investigations, had discovered the necessity for mixing varieties of pears and apples when they were planted in the same orchard. He had also made important scientific discoveries in preventing the ravages of the most dreaded pear disease, the so-called fire-blight, which is due to a little organism similar to that which causes tuberculosis in man. Knowing that a particular variety of pear must have another variety near by in order to cross-pollinate it, he did not make the mistakes made by others, while the knowledge of how the pear-blight organism lived taught him to out-maneuver this fatal malady. Moreover, the proper application of fungicides enabled him to keep the leaves on the growing trees. Chemistry was brought to his aid in the matter of securing the proper fertilizers.

Seven years have passed since this farm came under Mr. Waite's care, and its value is now, at a conservative estimate, $15,000. There are on the place something like 6,500

pear-trees, 4,500 apple-trees, 3,500 peach-trees, and 700 plum-trees, making more than 15,000 trees in all. These were not all planted at once, but were put out from time to time as the funds at hand, secured largely through the annual crops, would permit. In all of this planting, however, the fact was kept constantly in mind that to be highly successful in work of this nature no pains must be spared to keep every tree up to the highest state of development. A good season does not come every year, but notwithstanding this the trees must be kept up to the very highest standard of fertility. Then when climatic conditions are favorable and everything is in the proper condition, a mammoth crop is produced, which will oftentimes pay for the cost of the entire plant. Within the next few years such a combination of conditions will come about on Mr. Waite's plantation, and he may expect and will receive in one year $15,000 to $20,000 for his output. By judicious management and the application of theory to practice he has been able to make the annual crops yield him from $2,000 to $2,500 per year—a sufficient amount to permit him to extend his plantings and pay the necessary expenses connected therewith.

HOW A MAN BECAME A PEACH KING

A number of years ago Mr. S. H. Rumph started peach-growing in a small way at Marshallville, Georgia. Mr. Rumph was a native of that region, was familiar with the horticultural conditions existing, and was a believer in the advantages of the section for growing early peaches for northern markets. At that time transportation facilities were exceedingly poor. Refrigerator cars were not in use, and it was necessary to depend upon steamers for getting the fruit into northern markets. Undaunted by these difficulties, Mr. Rumph systematically began planting peaches, and has built up a business of great magnitude. He now has between 800 and 1,000 acres with something like 200,000 trees. Mr. Rumph's investigation resulted in the Elberta peach, a yellow variety of immense value to all southern growers, which was secured by crossing the Chinese Cling and the Early Crawford peaches. A fine white variety —the Belle of Georgia—was also originated by him. Mr. Rumph keeps pace with every modern improvement in the cultivation of the soil, the treatment of diseases, and in packing, storing, etc. He is a strong believer in the application of science to work of this kind, and has done much to bring about a better understanding of the great value of laboratory work when applied in the field. Chemistry has been brought to bear as an aid in feeding his trees. Plant pathology has enabled him to control some of the most serious diseases, and entomology has put him in possession of facts of great value in controlling insect pests.

SENDING PEACHES AND PEARS ABROAD

The development of such lines of work as that just described brought out the fact that in certain seasons when there were abundant crops produced along the Atlantic seaboard foreign markets would be very desirable. This led the national Government to aid the introduction of such perishable fruits as the pear and peach into European markets. The important questions of how best to gather the fruit, pack it, and treat it while in transit all had to be worked out, and such was the uncertain prospect of success that to encourage practical fruit-growers to undertake it the Government guaranteed certain experimental shipments. By careful investigations conducted in the laboratory and elsewhere these trial shipments of fruit were finally made highly successful, as in most cases fruit sent abroad has brought a larger profit than that sold at home. The eastern peach-growers were alive to this early work, and it was so successful that last year several carloads of peaches were shipped directly to London. Pears and other similar perishable fruits have been handled in the same way, with the result that foreign markets are rapidly being opened to many productions which a few years ago could only be disposed of in our own country.

CULTIVATING FRUITS IN CALIFORNIA

In no section of the country has horticulture received such careful attention as on the Pacific Coast, and especially in California, where the entire fruit industry has been developed in a comparatively short time. In 1902 there were 700,000 tons of fruits and fruit products shipped from California alone. More than 7,000 carloads of deciduous fruits, such as cherries, peaches, plums, and apricots, were sent out of the State and not only sold in the markets of the East, but shipped

abroad and sold successfully there. It is in California that the highest development has been reached in the art of packing for show purposes. Every attention is given to making a favorable impression when the fruit reaches its destination. Here, too, the most thorough and systematic efforts have been made in the matter of coöperative transportation and marketing problems.

In California the individual, owing to his environment, is able to utilize all that science and art have made known. With sunshine that is nearly continuous and with water always available results can be secured which are not practicable anywhere else. Vital questions pertaining to the control of insects and diseases have confronted these energetic men. At times it has appeared as if nature and nature's enemies would conquer, but in the end science has prevailed and pointed a way to meet the emergencies. The nature of the work in this region has made the horticulturist less conservative than he is in other sections. He is preëminently progressive, ready at all times to take hold of new propositions, and has met difficulties which under other conditions might have been insurmountable. When, a few years ago, the vine industry of the southern part of the State was swept away by a serious disease, the vine-growers immediately put in other crops, such as the walnut, which today is even more profitable than the grape. The grape, however, is preëminently the great industry, and with proper management is still made to yield from $75 to $150 per acre.

This region, since the great freeze a few years ago which carried off the greater part of the citrus trees in Florida, has been the chief source of fruit of this kind. Here, again, the national Government has been of great aid, for the chief orange which is now grown on the Pacific Coast—the navel—was originally secured by the Department of Agriculture, and the first two trees, the parents of this great industry in California, are still in the conservatories at Washington.

MAKING A NEW ORANGE

In the cases cited I have referred from time to time to results brought about by the laboratory man—the man who devotes his life to the study of horticultural crops, devising better methods for growing them and enabling them better to meet the enemies which attack them. It is the laboratory worker who is coming to the front now as the creator of new fruits. When the cold winds from the north destroyed the citrus industry of Florida, work was undertaken at once by the national Government to secure an orange which would be more hardy than any now in existence. Growing in many parts of the East, as far north as Philadelphia, is a small hardy Japanese orange which is only suitable for ornamental purposes and which bears a fruit the size of a walnut. Here was the hardiness. By using this plant as the mother and the tender sweet orange of Florida as the father, and *vice versa*, hybrids have been produced which partake of the characteristics of both. These hybrids are now beginning to fruit for the first time. They are, of course, not so hardy as the hardy mother, but are much more hardy than the sweet orange, the other parent. The fruit secured has some of the characteristics of a lemon, but is valuable for marmalades and other purposes—and unquestionably can be grown in every back yard in the South. When the characteristics of the sweet orange have been bred into this fruit the result aimed for at the outset will be accomplished.

THE TANGELO—A NEW FRUIT

The pomelo is coming rapidly into favor as a tonic breakfast fruit. But it has objections. The scientist, recognizing that the pomelo could be improved, has used it as one parent, the small tangerine, or velvet-skinned orange, as the other, and secured a hybrid to which is given the name tangelo. The tangelo possesses all of the desirable qualities of the pomelo and yet has a skin like the tangerine orange, and can be eaten out of hand in the same way.

Probably of far more vital importance than any of the other subjects discussed are the modern methods of combating the diseases which affect horticultural crops and which have enabled the horticulturist to establish his industry on a plane higher than ever before. The results brought about in this field have all been accomplished within the last fifteen years, and through the knowledge acquired in the laboratory many of the problems which in former times were considered useless to attack have now become comparatively simple. The causes of many

of these diseases have been worked out. Sometimes these investigations lead into very remote fields. Diseases may be caused by some conditions of soil or climate which are not at first apparent. These are the most difficult of all maladies to control. Those which are produced by parasitic organisms are the simplest, and the practices now followed in combating them are looked upon in the same light as the application of fertilizers and the cultivation of the soil.

COLD STORAGE LENGTHENS FRUIT SEASONS

As the production of fruits and vegetables has increased, the necessity for proper methods of handling and storing them has become more and more recognized. Thus there has been built up within the past few years the refrigeration, storage, and general warehousing of such fruits as the apple, pear, and peach, and other crops of a similar nature. Great quantities of these fruits are now stored each year, with the result that markets are better controlled and the season of consumption much extended. The national Government has become interested in this question of storage, and science has made easy the proper gathering, packing, and shipping of the fruits.

Fruits are recognized as living organisms that have a life-history extending from the time the blossom falls until they are used or destroyed. Science shows that the keeping qualities of fruits depend on numerous conditions. The time of gathering, the portion of the tree from which the fruit comes, the character of the soil upon which it is grown—all have important bearings on its life and must receive consideration in questions relating to storage work. The types of packages, also, have an important bearing on the life of fruits, and the manner in which the individual fruits themselves may be wrapped has much to do with their keeping qualities and ability to withstand the various diseases which may attack them after being brought into the warehouse. Before the advent of cold storage the supply of many of the summer fruits, such as pears, exceeded the demand. Cold storage has obviated many difficulties of this kind, and as a result the storage of the pear alone has developed immensely in the East. Probably 300,000 bushels of this perishable fruit are stored annually in a few of our eastern cities. Far more attention is paid, of course, to the storage of apples, but the questions involved are similar to those for other fruits.

MARKET-GARDENING A NEW INDUSTRY

As a special branch of horticulture, market-gardening and truck-growing may be mentioned. Twenty-five years ago market-gardening was the principal industry of this kind. In the vicinity of every large city considerable areas of ground were devoted to most intensive work in growing vegetable crops for the city markets. These crops, in most cases, were confined to the vicinity of cities for several reasons. First, there was a good market; second, they could be in most cases hauled in by the market gardener himself; and, third, there was easily available a good supply of stable-manure—a necessary material for all such work. Within recent years this work has materially changed, and now the New York merchant finds on his table choice garden vegetables grown in Florida or some of the other southern States.

Through the careful scientific study of the soils of our eastern seacoast the valuable truck lands have been pointed out. This work has had nothing to do with the chemistry of the soil, but has been a study of its physical properties, as it is recognized that these properties are vital in determining a productive or non-productive truck area. Earliness is a vital feature in truck-growing. Soils that contain a certain proportion of clay cannot be early. The work of the soil physicist has been to make possible the mapping of these valuable truck lands. It has shown the would-be investor where he can safely put his money and has done much to encourage and build up the industry. Transportation facilities have done a great deal, and the knowledge of how and when properly to apply the necessary plant foods has also been of vital importance.

"GO EAST, YOUNG MAN"

All these things have made horticulture a broad and varied field. Its profits are large and the opportunities for future work are still great. If I were asked to give a final word of advice in this whole matter, I would not say, as did Horace Greeley, "Go West, young man, and grow up with the country," but, "Come East, young man, buy a worn-out farm, and go into horticulture."

THE PANAMA CANAL AND THE MISSISSIPPI VALLEY

HOW THE CANAL WILL BENEFIT THE STATES AND TERRITORIES OF THE COUNTRY'S GREAT CENTRAL PLAIN — IT WILL CHANGE TRADE CURRENTS AND BUILD UP THE CITIES OF THE VALLEY — THE ECONOMIC, SOCIAL, AND POLITICAL CONSEQUENCES OF THE WATERWAY FOR THE UNITED STATES AND THE WESTERN HEMISPHERE

BY

CHARLES M. HARVEY

A QUARTER of a century ago, L. U. Reavis, in a book entitled "St. Louis, the Future Great City of the World," said that it would one day be the capital of the United States. New Orleans, according to James D. B. DeBow, an ante-bellum economist and superintendent of the census, is destined to be our commercial centre. More than two centuries ago Louis Joliet, New France's discoverer of the Mississippi, standing where Chicago is now built, predicted that the narrow portage separating the Chicago River and the neighboring streams running into Lake Michigan and out into the Atlantic by way of the St. Lawrence from the Illinois and the other rivers running west and south would be pierced, and the waters of the lake would flow into the Mississippi and down into the Gulf of Mexico.

Upon all these old predictions the Panama Canal will have a decisive influence. The nation's capital will remain on the Potomac, but the isthmian waterway will aid the ambition of St. Louis to become a seaport by way of the Gulf of Mexico and also by way of the Great Lakes. Chicago's drainage canal already connects the waters of Lake Michigan with the Mississippi; but Panama's highway will give momentum to the influences which will impel the United States to accept Chicago's proffered gift of the drainage canal on condition that the deep water be extended through the Illinois to the Mississippi and the Mississippi to Cairo (below which the depth is fairly adequate now). This will give Chicago an outlet for ocean vessels by way of the gulf, to supplement that which it already has by way of the lakes and the St. Lawrence.

Memphis, St. Paul, Louisville, Cincinnati, Pittsburg, Kansas City, and Omaha are beginning, in anticipation, to feel the thrill of the new life which the isthmian short-cut to the west coast of the United States, to the west coast of South America, and to Australia and Asia will bring. Indianapolis, Wichita, Denver, and all the other great interior railroad centres will feel the canal's quickening effects. The railroads will be benefited even more promptly and more powerfully than the rivers. New Orleans, the point at which nearly all the great valley's waters and most of its north-and-south railroads converge, will probably gain more through the canal than any other city.

By their capture of Constantinople in 1453 the Turks thrust themselves across the routes by which the silks, dyewoods, perfumes, and precious stones of India and China were carried by caravan through the valleys of the Euphrates and the Tigris and on the Mediterranean to the western nations, and Europe was compelled to seek an ocean route to Asia. This started Columbus across the Atlantic in 1492, and sent Vasco da Gama in 1498 down along the coast of Africa, around the Cape of Good Hope, through the Indian Ocean, and into the Bay of Bengal. Da Gama's all-ocean route killed Genoa, Pisa, Florence, and Venice as trade centres, built up some of Portugal's ports, and ultimately made the fortune of Amsterdam and Antwerp. Columbus's discovery made the Spain of the days of Charles V. almost as powerful in the world's politics as Rome was in the time of Cæsar and Trajan.

In a similar way the Panama Canal will shift trade currents and build up new centres of empire. Until a few years before the Civil War the Mississippi carried a very large

part of the great valley's products to the markets of the Atlantic seaboard States and the rest of the world, and the city at its mouth reflected this condition. New Orleans, which would have been twelfth on the population-roll of the country's cities in 1790 if it had been in the United States, and ninth in 1800, went up to the seventh place in 1810, was fifth in 1820 and 1830, and stood third in 1840, being led at that time by New York and Philadelphia only. Then it began to decline relatively—that is, some other towns began to grow more rapidly—and it held the fifth place in 1850, the sixth in 1860. The war and the subsequent demoralization and stagnation reduced it again to the twelfth place in 1900.

This expansion and shrinkage in the relative population of New Orleans measures, in a general way, the rise and fall of the Mississippi's fortunes as a carrier of merchandise. The building of the railroads in the West in the '40s and their connection with the roads east of the Alleghanies soon afterward changed the north-and-south trade currents into east-and-west currents, and began to rob the Mississippi of its commercial importance. By the completion of the Cleveland & Toledo Railroad in 1853 through connection between Chicago and New York and Boston was obtained. In 1854 the Chicago & Rock Island road brought the Mississippi into rail connection with the Atlantic. The Baltimore & Ohio's western connections struck the Mississippi opposite St. Louis in 1857, and that city got the open door to the Atlantic; and in 1859 the Hannibal & St. Joseph road brought through railroad communication to the Missouri.

Slavery and war discouraged railroad-building in the South. When railroads were built they almost all ran east and west, and nearly all of them were north of the Ohio and of the Potomac. The roads also detracted from the Mississippi's economic importance, and built up the Atlantic ports at the expense of the gulf outlets. In 1902 the amount of freight received and shipped at St. Louis was 29,000,000 tons by rail and 641,000 tons by the rivers—the upper Mississippi, the lower Mississippi, the Ohio, the Illinois, the Missouri, the Cumberland, and the Tennessee —or more than forty-five times as much by rail as by water, and the gap between them was made still wider in 1903. Mike Fink and his fellow flatboatmen of eighty years ago would be ashamed of the river if they saw it today. Not in all the years that have passed since the *General Pike* steamed up to St. Louis, in 1817, and brought in the new era in river navigation has the Mississippi filled so small a place among the transportation agencies of the central and upper part of the valley as it does at this moment.

But the Panama gateway between the world's two great oceans will establish new balances and shift the country's trade centre to the Mississippi Valley, just as DeWitt Clinton's Erie Canal, opened in 1826, which was a much smaller factor in America's economic forces, ended the contest for supremacy among the Atlantic coast cities and gave New York a long lead over its rivals—Philadelphia, Boston, and Baltimore. It will do this by creating new forces and by giving added momentum to influences already at work. Mills are getting nearer and nearer to the sources of supply, and the supplies of four-fifths of the more important commodities are in the great central plain between the Alleghanies and the Rockies. Finished products cost less to carry than raw materials. Thirteen years ago the North took 76 per cent. of the home consumption of American cotton and the South 24 per cent.; but the ratio today is 50 per cent. for each section. A large and steadily increasing proportion of the new southern mills is between the Appalachian Mountains and the Mississippi River.

The natural outlets for a large and rapidly growing part of this southern cotton manufacture are the gulf ports. The centre of the country's cotton-growing today is in the State of Mississippi, a few miles from Jackson. Moreover, the 20,000,000 acres of the "drowned" lands along the border of the river in Arkansas, Mississippi, Tennessee, and Louisiana are among the most fertile in the world, and will be reclaimed by the nationalization and improvement of the levee system that the Panama waterway will incite; and they will produce an additional 10,000,000 bales.

The centre of the production of the most important cereals—corn, wheat, oats, barley, rye, and buckwheat—taken in the aggregate, is in Illinois, a few miles north of Quincy. Flour and grist mills, following the raw materials, are clustering near the Mississippi.

In the valley, too, is the centre of the production of iron ore, coal, lead, zinc, tobacco, timber, petroleum, and other important commodities. The centre of the country's manufactures is in Ohio, and, like the centre of population, which is in Indiana, it is moving in the direction of the great river.

One of the effects of this shifting of industries to the Mississippi Valley is seen in the great gain in the commerce of the gulf ports. The value of the whole country's exports in 1903 was 58 per cent. greater than in 1883; but the gain in New York was only 31 per cent., and the gain at New Orleans was 69 per cent., at Galveston 239 per cent., and at Mobile 422 per cent. In 1903 New Orleans exceeded New York by more than 1,000,000 bushels in the exportation of corn and wheat. New Orleans is now the second of the country's cities in aggregate exports, ranking next to New York. Galveston was the fourth city in exports in 1903, exceeding all the country's Atlantic ports except New York and Boston. In 1904 it has passed Boston.

New York State has just voted to expend $101,000,000 to deepen and widen the Erie Canal to carry barges of 1,000 tons capacity, with the hope of meeting the competition of Montreal and the gulf ports in the carrying trade. The expenditure may avail in the case of Montreal, but it will not prevent the coming supremacy of the gulf ports.

A bill for the construction of a ship canal by the national Government from Chicago to the Mississippi River (utilizing Chicago's drainage canal) and for the deepening of the Mississippi down to Cairo is before Congress. The Panama Canal sentiment will push this measure to enactment. Into this waterway from Lake Michigan downward to the gulf will be diverted a large part of that vast stream of freight which flows through the "Soo" Canal between Lakes Superior and Huron, and which now moves eastward through the other lakes (or through Canadian canals) and the St. Lawrence or by way of the Erie Canal and the Hudson River to the Atlantic. This shifting of the main channel of commerce will have stimulating effects on Chicago, St. Louis, and New Orleans as compared with Montreal, New York, Philadelphia, and Baltimore, just as Antwerp, by the magnificent canal system tributary to it, has just displaced Hamburg as the third seaport of the world. Through the "Soo" in 1903 passed 35,000,000 tons of freight—three times as much as was carried by the Suez Canal. A great portion of this immense traffic will move toward the Gulf, and will be reënforced by much of the freight originating east of the canal for hundreds of miles, as well as by a large part of that originating at Chicago and on Lake Michigan.

The opposition of the trunk railway lines to the Lake Michigan-Mississippi ship canal and river improvement will be encountered. This hostility delayed the beginning of the isthmian canal, but did not prevent it. It will be equally vain in this case. Some Atlantic coast shipping interests will also be adverse, but these, too, will be overcome. Chicago and St. Louis will be allies in the ship-canal project. They will be aided by the "On-to-Cairo" enthusiasts of Pittsburg, Cincinnati, Louisville, and the rest of the Ohio Valley, as well as by the "On-to-St. Louis" advocates of Kansas City, Omaha, and the other important towns on the Missouri. All the Mississippi watershed will be enlisted. The Mississippi drains the whole of ten and parts of twenty-two other States and Territories, extending from the Appalachian divide to the crest of the Rockies. It has an area of 1,260,000 square miles, more than two-fifths of the contiguous part of the United States, and has more than 16,000 miles of navigable waters. In this effort the valley will be aided by the States of the Pacific Coast.

The Mississippi Valley is the industrial and social heart of the United States. It is the most populous watershed on the globe and the richest in natural resources. For decades past it has been the country's political centre. It has contributed every elected President, except Cleveland, since Buchanan. In this fight for industrial and commercial supremacy it will be practically invincible.

New Orleans is nearer to the centres of the Middle West and Southwest that produce and manufacture food and raw material than are New York, Philadelphia, and Boston, and it is as near as those Atlantic coast points to the great wheat and corn fields of the Northwest. By rail from all those localities to the Atlantic coast the Appalachian Mountain chain must be crossed. The roads running to the gulf ports, on the other hand, go down

an easy slope, are operated more cheaply, and carry freight at lower rates. Then, too, the valley's waterways will be of great importance. Moreover, though like Chicago physically outside the Mississippi watershed, Galveston and Mobile—Galveston, of course, in a larger degree than Mobile—are within the sphere of the great valley's influence.

"The nation," said Sir Walter Raleigh, "which controls the Isthmus of Darien is master of the world." The gathering of the United States fleets in the gulf and the Caribbean for their winter maneuvers in 1904 is not temporary or arbitrary. It is a permanent function. Those waters are a strategic point from which the United States would be open to assault in a war between this country and a great naval power. From our bases at Porto Rico, at Guantanamo, and at Panama we gain a mastery in our southern seas which adds vastly to our prestige in the western hemisphere and which increases our influence throughout the world. It also entails upon us the creation of a very large navy.

Through the Panama Canal will flow all the commerce from Europe and our Atlantic seaboard and the Mississippi Valley bound to the western coast of the United States and of South America, much of that to Australia and Asia, and traffic from the western coast of the United States with the Atlantic border of the United States and of South America. Through it also most of the east coast and the west coast of South America will communicate with each other, as well as the two coasts of Canada. It will be the busiest waterway in the world, ultimately exceeding the Soo Canal in activity as much as the Soo surpasses the Suez. It will become the point at which the trade streams from the four quarters of the globe converge.

At the gateway stands the Mississippi Valley. Thus New Orleans, Galveston, and Mobile will be in a commanding position. The number of railroads securing terminals at each of those points, particularly at New Orleans, is steadily increasing. Six trunk lines, representing 30,000 miles of road, touch at New Orleans in 1904, and other roads are reaching toward that point. Its docks, wharves, and elevators are of the latest pattern. Vessels of the deepest draft pass freely in and out of its harbor. It has steamship connection already with New York, England, Germany, France, Cuba, and Central America. Galveston's railway and ocean steamship connections are likewise extensive and rapidly growing.

Benefits to the gulf ports from the canal will begin immediately. The bulk of the machinery and of the implements for the thousands of laborers who will be at work on the canal will be furnished by New York, but the greater part of the food and the other supplies will be shipped by way of New Orleans and Galveston. The demands for these will be more continuous and will entail a larger outlay than the demands for tools.

Panama's influence on the Mississippi Valley's outlets is already showing itself. Senator Taliaferro, of Florida, has introduced a bill in Congress for an appropriation for a preliminary survey for a canal route across the northern end of Florida for ocean vessels which will shorten by hundreds of miles the distance by water from the Gulf ports to New York, Philadelphia, Boston, and Europe. The New Orleans Board of Trade is working in coöperation with a committee of citizens of that city to organize the "Mississippi Valley and Orient Steamship Company," with a capital of $5,000,000, to build a line of swift and powerful passenger and freight steamers to trade by way of the canal between New Orleans and the west coast of South America, the west coast of the United States, Hawaii, the Philippines, and Asia.

In speaking of the Mississippi Valley's seaports, Pittsburg, the world's greatest steel centre, St. Louis, near the confluence of the Mississippi, the Missouri, and the Illinois rivers, and Chicago must be taken into account, as well as Memphis, Cincinnati, Louisville, St. Paul, Kansas City, Omaha, and other great towns on the big river and its navigable affluents. All are nearer to sources of supplies, but all, in some degree, must pay tribute to New Orleans.

The canal's economic, social, and political consequences will be vast. When, in 1869, De Lesseps finished his Suez short-cut between the Mediterranean and the Indian Ocean, he not only immediately increased the world's trade with Asia, but he decisively contributed to the elements which, beginning with Commodore Matthew Calbraith Perry's United States treaty in 1853, drew Japan out of her seclusion and absolutism and placed her

on the roll of modern States. The canal will not only strengthen our hold on Hawaii, the Philippines, and our other islands of the Pacific, but it will give us an imperative reason for insisting on the preservation of the open door in China, and will make the United States a power in the politics of Asia.

As a United States highway the canal will give this country a larger stake in the welfare of the peoples within and on the borders of the Caribbean and the Gulf of Mexico, and give them a greater interest in us. Jefferson's vision of a confederated West Indies under a United States protectorate was something more than a dream. Porto Rico belongs to us. Cuba will one day be a State of the Union. The aspirations of Jamaica and the other British islands in the Caribbean for annexation may be gratified ultimately by an amicable arrangement with England. San Domingo and Haiti are drifting toward us, whether we like it or not. President Diaz is reported to have predicted that within half a century Mexico, in which $500,000,000 of United States capital is invested, will ask for political union. The protectorate over Panama, from which we have gained by treaty a ten-mile-wide strip in which our sovereignty is absolute, is only a preliminary to annexation, and the rest of Central America sooner or later will be with us. With much of Canada's trade from the interior diverted to the Lake Michigan-Illinois River-Mississippi route to the Gulf of Mexico instead of passing through her own canals and the St. Lawrence, and with a large and steadily increasing part of her Atlantic and Pacific Coast commerce passing through our interoceanic waterway, an immense impetus will be given to the forces of political gravitation which are drawing the Dominion as well as all the rest of North America to the United States.

With the focus of its social and political activities permanently fixed in its great central plain, the American republic, before the close of the first quarter of the twentieth century, will be filling a larger place in the world's affairs than Spain did in the sixteenth.

PROVIDING THE WORLD WITH POWER

THE MARVELOUS INCREASE IN THE USE OF ELECTRICITY—WHERE THE MACHINERY IS MADE—FACTORIES WHICH PRODUCE ELECTRICAL DEVICES FOR ALL THE USES OF MODERN LIFE, FROM LIGHTS TO LOCOMOTIVES—HOW THE MACHINES ARE SENT ALL OVER THE WORLD

BY

ARTHUR GOODRICH

"THREE or four of us were riding on a crosstown horse-car in New York recently," said an electrical engineer of a large electric works. "It made us think. Hardly more than fifteen years ago there were perhaps 100 electric cars in existence. Last year my firm alone had orders for railway motors equaling in power 500,000 horses. Only a few years ago we surprised ourselves by making 125 electric lights in a week—a new record. Today we are making about 2,000. A few years ago the average size of our motors was five horse-power. Today it's fifty instead of five.

"You can't turn around on a street corner, in a store, or in your own house, not to speak of visiting mines and factories, without meeting electric power at work. Even in the backwoods you'll probably find a lumber mill sawing logs by electricity. Most of this development has come in the last fifteen years. Inventions? Patents? Our company has $5,000,000 worth."

"Less than fifteen years ago," said another, "the company for which I was working built a 200-horse-power generator, and we thought it a monster. We are now building generators of 5,000 or 10,000 horse-power so rapidly that I can't keep track of them. Electricity will soon replace steam on rail-

roads. The steam turbine engine is certain to replace present methods of generating electricity, because of its added power for the floor space occupied and the ease with which it is handled. For example, turbines will be used to produce the power for running the New York Central's electric line through the tunnel into New York City."

I recently visited an electrical works which employs 12,000 people—three-quarters of them skilled workmen—a veritable army as it trudges out toward home every night. The works are so large that one of the superintendents lost his way while taking me to one of his aids.

From this factory goes each day, to every part of the globe, machinery to produce more than 8,000 horse-power, making this daily addition to the working power of the world.

"We used to have a map," said one of the employes, "on which red dots showed the places where our machines were installed; but soon the entire map was red. Then we gave it up."

The power of the mills comes by electricity from falls forty miles distant, which also furnish light to the city and provide its street-railway with power. The furnace is fed and the ashes are removed automatically. The furnaceman's only duty is to watch the fire and turn an electric switch for more coal or fewer ashes. Lining the gallery of the engine-room are switchboards that show at a glance the exact amount of electricity being used in every one of the hundred buildings. In the offices and drafting-room 500 engineers are working out devices, for electrical machinery is made to order as well as ready-made. More than 1,000,000 blue prints are made every year—on dark days with the aid of a reflector and arc lamps—and washed and dried automatically, so that the prints are ready in a few minutes. These drawings and prints are sent from building to building in an electrically run carrier. Laboratories develop new inventions, test completed work, and manufacture and repair apparatus for the shops. A complete photographic department takes pictures, and a printery and bindery and an engraving shop prepare publications and make books, pamphlets, pads, and tags without end. A gas plant large enough to light a small city furnishes gas to the works. Besides a complete electric railroad connecting the different buildings, there is an experimental road fitted to test electric locomotives, railway motors, and controllers, to experiment with the effect of wind upon trains, and to investigate the causes of difficulties. Every new invention for power-house or car is tried thoroughly on this road.

In the wire mill rows of machines that hesitate only long enough to receive new spools automatically wind small wire into slender rope of many strands, and this rope is again wound into heavier rope and again into cable. On dozens of machines busy shuttles or mechanical contrivances, feeding material faster than the eye can follow, weave yarn or thread or silk over miles of wire. Wire goes into one machine round and comes out flattened and covered with two or three layers of insulation. Crude rubber entering the first of a line of machines comes out at the farther end in long, thin sheets ready to be used for insulation. Beyond, automatic machines take this rubber and wind it upon four wires at a time. Another machine is similarly covering wire with paper insulation, and still another is winding together into a compact cable three already insulated wire ropes and two heavy lines of yarn.

A great hydraulic press is coating cables with lead by a pressure of 1,000 tons. Workmen and girls stand by, watching and feeding machines and repairing breaks. Here is wire for metre measuring so small that it takes six miles to weigh a pound, and transmission cable so bulky that a mile of it will weigh 65,000 pounds. The weekly product of this mill would wind around the world five coils of insulated wire. Every ounce of it is baked and thoroughly tested.

The four-acre iron foundry at "pouring-off" time is an inferno of grim activity. A regiment of men are at work, but they seem lilliputian in the gigantic spectacle. Tons upon tons of molten iron pour down in steady streams from the roaring cupolas, to be caught in immense ladles which twenty-five electric cranes catch up and carry to the big molds embedded in the floor at the other side of the room. Great gallowslike jib-cranes are picked up by the overhead "travelers," and each is carried to the work that it must do. Cars are coming in with loads of crude iron, coke, coal, molasses, lime, and flour. Cars are running out carrying rough castings to the machine-shop.

In the machine-shop, on an iron floor upon which machines and immense castings can be bolted down, great cranes, which easily pick up seventy-five tons, carry the roughly formed metal to its place. Each of the big slotting-machines, fitted with its own motor, is set down by a crane within one of the great frames of iron, clamped to the floor, and forthwith put into operation. Overhead, the big "travelers" swing loads up and down, and immense beetlelike pieces of mechanism above, to the right and to the left, to any part of the great shops.

As one looks down upon the floor from the galleries the massive frames of the machinery being made stand out like lines of double-sized monitor turrets. Within them are machines at work smoothing them into shape, or groups of little men are toiling to make them into armatures. A big boring-mill is prodding at prodigious iron frames. At one end, merely for a test, and at great expense, men are building equipment equal to that at Niagara about a big generator. Car-tracks run from end to end of the building, and near one door a few mining locomotives for Pennsylvania coal mines are on the way toward completion.

In one building an automatic process completes in ten seconds parts of machines that it formerly took forty-eight hours to manufacture. In another, mica is sorted and split and gauged and made ready for the machines that will stamp and press it into the necessary shapes for insulation. A complete brass foundry turns out yearly thousands of tons of brass, aluminum, and composition castings. Every bolt and nut in the electrical machines is made in the works. Rough slabs of marble and slate come to the factory and go out switchboards fitted with switches. Automatic drilling-presses and tapping-machines replace the labor of many workmen. For example, a machine, with the help of one girl, drills and taps 20,000 socket parts every day. Soldering is done entirely by electrically heated irons. One room is filled with rows of machines that look like rapid-fire guns—automatic screw-machines, each of which do the work five men did previously. Four of them are attended now by one workman. One building is given over entirely to porcelain, where the clay is mixed, molded by presses, and baked in great funnel-like kilns. Every machine that goes out of the mills is tested by a force of nearly 400 men, most of them fresh from technical schools, more thoroughly than it is ever likely to be tested afterward.

The way through the mill seems endless. Lines follow lines of men and machines. The echo of thudding power-presses succeeds the noise of pounding wooden wedges from the cabinet-making department, and echoes of both remain when the steady throb of rows of automatic machines reaches you. Men are everywhere; but most of them merely guide the big electrical machines. There is the pulsing of compressed-air drills, but in many cases electric drills have taken their place. There is little grinding of belts, for each good-sized machine has its own motor, although often half a dozen machines will be driven by a single motor. No smoke or soot or dirt soils the floors and side walls, except in the foundry. Electricity brings material to its place; electricity hoists it and carries it, molds it and finishes it; electricity prepares it for the trains and puts aboard the cars the finished material now wrought into electrical machines ready to add to the power and light of the world.

Into one building come castings and parts from a dozen others. Cars at the other end of the building take out complete railway motors. In another, 25,000 controllers which motormen handle on the street-cars—and which, by the way, are in use throughout the mills on cranes and machines—are put together every year. In one building a boy pulls a rope and a small crane lifts a mass of iron or steel and carries it rapidly along the room. Another pull of the rope, and the crane stops and lowers the material into place. In another building a machine is winding in close coil a thick ribbon of copper that you find it difficult to bend in your fingers.

In rooms where underground tubes are made wood is put in a vacuum tank heated by steam. The heat takes all the air and moisture out of the wood. Resin is then put into the tank, and a hydraulic press forces the resin to replace the air and moisture. The result is thoroughly insulated wood. In the buildings where transformers are made are baking-ovens in which hundreds of coils of wire can be placed at a time. In the swiftly growing part of the works, where steam turbines are being built—and engines to produce 250,000 horse-power were ordered

before one was ready for commercial use—is a striking machine which automatically cuts out of metal disks the oddly shaped little buckets against which the steam beats in the completed engine.

Searchlights of from two to three million candle-power, and with a diameter of eight feet, which in clear weather can give a signal 200 miles away, are being made by machinery. They are constructed so as to turn in any direction by a little lever that may be placed at almost any distance from the light itself. So powerful is the light that the heavy glass that covers it must be built in strips rather than in a single piece. One workman who exposed himself too closely was badly "sunburned." Electric controllers are being made which can change by a touch of the hand the color of the signal on a ship's masthead, and small searchlights for automobiles, small generators for yachts and generators sixty times as large for war-ships, electric compressors for air brakes, large electric locomotives for tunnel work, little turtle-back engines for mines, and big electric blowers for steamships and for shop ventilation.

Wires from the factory we saw first are in St. Peter's at Rome. A transmission line, with equipment made here, is operating Indian gold fields from sacred falls more than ninety miles distant. Power set in motion by machines built here is driving the twopenny tubes in London, lighting the way for people, and carrying them or their goods at rapid speed in Mexico, in Brazil, in Peru, along the streets of Tokio and of Bangkok, Siam, in Korea, and in South Africa. It is conveying tourists from Cairo to the Pyramids, and colonists in Australia.

"How about German competition?" I asked one of the men, for three or four large German companies have followed quickly the lead of the American pioneers in electrical industry.

"It holds Germany, and we meet it in South America. The Germans organize their business well. Not long ago we bid on some South American work. Our figures were $2,500 under the German bid, but the Germans got the contract, for they had combined with a bank that was furnishing capital for the project. The bank would not advance the money unless the German firm received the contract."

"How do you get foreign work?"

"Chiefly because there are still many people who think American apparatus is better than any other; our prices don't differ greatly from foreign prices. Our superior machine equipment counteracts the expense of high wages."

In the shipping-rooms there is a constant supply of about 2,000,000 separate pieces, from small springs to seventy-ton machines. The shipper can put his hand immediately on any one of them. You could build a wall fifty feet high, forty feet wide, and twenty-five miles long with the goods that go out every year. Here a machine makes a box from raw lumber in less than a minute; traveling cranes bring in the big masses, machines help to box them, and the cranes lift them on board the freight cars, of which forty, well filled, go out every day.

In fact, so complete is the equipment of machines that three-quarters of this immense shipping is done by half a dozen men. If a generator is going to Niagara, the packers know the exact height of the doors through which it must go, and the problems of railway transportation to be solved. Big machines going to inland Peru must be split into small parts to be carried on muleback, and reassembled on the ground. The facility of every waterway must be known adequately. One machine, dumped overboard in Japan, had to be brought back and rebuilt. If machines are going to India or Manila they must be tarred thoroughly and then wrapped in tar paper, to keep the peculiar ants in those countries from eating up the insulation of the machine.

The tests of cases already packed are thorough. A large marble switchboard, for example, enclosed in a leather case and then boxed with thick layers of excelsior, is attached to the chains of a crane and tumbled up and down on the floor. Sometimes it is attached to the end of a car and dragged along the ties in the yard. Recently, in an installation in Colorado mountains, material had to be hauled in wagons up to the plant. On the way up the horses which were dragging some switchboards tumbled over a cliff and fell some sixty feet on the rocks below. The horses and driver were killed and the wagon was broken to pieces. Literally, the only things unharmed were the brittle marble switchboards shipped from the East.

What does all this machinery do when it

is in place besides giving people a chance to talk and send messages across continents and seas, besides lighting streets, public buildings, and homes, besides running car-lines in cities and from city to city? One of the striking developments of the last few years is the transmission of electricity. Four or five years ago engineers in the Mysore territory in southern India conceived the idea of making the Cauvery Falls furnish power to the Kolar gold mines, ninety-two miles away. An American company was chosen to furnish the electrical machinery. An American engineer and fifteen assistants, with a large force of natives, began the work in 1900. The difficulties were numerous. First of all, cholera broke out in the labor camps and stopped work for a month. Ants did great damage for a time. All the poles had to be placed in steel sockets. One workman, who left his tool-chest out one night, found next morning only the steel part of one tool and a few buttons from his overalls. After a week of operation of some of the machines it was found that something was wrong with the lubrication. The oil disappeared. They discovered that a Hindu must, by his religion, take a periodical bath in oil. To him oil is oil. The workmen had drained the bearings for bathing purposes. How to stop the thieving was a puzzling problem until some one solved it. The Hindu does not eat meat, and he will not touch anything that has blood in it. Two or three animals were killed, therefore, and blood was dripped into the bearings. There was no more stealing of oil, however many other things were stolen.

Luckily, the stone and bricks for construction were all obtained near by. Early in the work a little town of eighty houses grew up suddenly around the site of the power-house, with a water-supply, a branch post-office, telephones, and a provision store, in a region where no man had ever been a few months before. Gradually the power-houses were built, and the line started from the gold-field through the jungle. But the roads were so soggy that to help drag the heavy machinery eight State elephants were pressed into service. "Though it did seem," said the engineer, "like using the tenth century to help the twentieth."

The timber came from Australia, insulations from Italy, the hydraulic plant from Switzerland, the penstock pipes from Scotland, and the entire electric plant, with a capacity of 4,000 horse-power, from America. From the power-house at the falls the current follows two parallel lines of wire to the gold-fields, where the power is turned over to thirty or more motors. These furnish it to crush quartz above ground and to air-compressors for underground drilling. The loss of power is only twenty per cent. in ninety-two miles.

A southern cotton-mill is in a town nearly three miles from the dam which furnishes the power. Without electrical transmission the mill must have been built beside the dam; a canal would have been necessary and a railroad would have been constructed to connect mill and town, new tenement-houses and other buildings would have been built, and the weekly payroll would have been considerably larger. At first the transmission line was the wonder of the Negroes, who half expected to see power drop from the wires; but now many of the large mills are using the system.

The ease and cleanliness with which motors are handled, the large and steady power they furnish, and the slight care they need have made them satisfactory for driving machinery within many mills. In many shops overhead belts spoil clean jobs by the drippings of dirt and oil. Motors give no such trouble. Moreover, motor-driven machines can be placed anywhere instead of being lined in arbitrary rows. No power is thrown away when a machine stops running. Many small manufacturers buy electrical power exactly as they would buy light, paying only for what they use. No better example of the values of electrically driven machines can be found than in the big electrical mills themselves.

"We couldn't afford to use electric machines ourselves," said a superintendent in an electrical mill, "if they weren't the best and cheapest."

The huge electric cranes are particularly interesting. One used in a shipyard runs on an elevated track between two ships on the ways and brings into place each piece of heavy steel for the hull. In the steel works big cranes with a span of 250 feet unload ore from cars and charge the mill's furnaces. One of these has averaged 200 tons of ore an hour.

On shipboard, electricity lights the ship

throughout, operates the searchlights, hoists freight, helps in ventilation, and cares for the signals. The engineer searches a dark part of his machinery with a harmless and brilliant incandescent light. The pumps are worked with motors. A glance at the tell-tale board will show how the running-lights are aloft. If a light goes out, a corresponding light on the board is lighted and a "buzzer" sounds a warning. By the naval signaling system forty-one combinations of lights are used as secret signals. Portable electric hoists move material on ships and on the wharves. In mines, also, drills, hoists, pumps, and engines are run by motors. A small hoist that two men can carry will handle more material than a small force of workmen.

Not long ago a fruit company that imports about 7,000,000 bunches of bananas a year grew tired of the slow process of unloading by long lines of Negroes. The fruit was often bruised and the stems broken. A machine similar to the "carrier" of a thrashing-machine was devised, one end of which reaches into the hold of the ship. It then runs upward a few feet above the deck and then down to the wharf. One man in a small tower runs the machine that carries the bananas easily into canvas pockets. With three hatches the machinery unloads, without bruising, 15,000 bunches an hour.

Silk mills in Italy, France, and America are running by electric power. In the big lumber mills of the Northwest portable sawmills are kept running by a portable generating plant. Instead of carrying logs to the mill, the machines are moved to the logs wherever they fall in the forest.

In the modern hotel evidences of electrical power are everywhere. An automatic refrigerating apparatus makes two and a half tons of ice a day. The laundry washes and irons all plain clothes by electricity. The elevator, which must stop at will and start again at full speed, is run by a motor. Fans and blowers help to give the building ventilation. The kitchens are equipped with electrical machines that polish silver, clean knives, pitchers, and carafes, freeze ice-cream, mix bread, and chop and grind food into the proper form. The lights in the rooms are perhaps the new meridian lights that diffuse the brilliancy equally over a large space, and outside there are likely soon to be some of the new luminous arc lights that give three times the light of the present kind for the same amount of power.

Churches have electric organs, and doctors next door discover disease with wonderful little electrical devices. Hospitals have electrical refrigerating machines, and typewriters in business offices are perhaps made to work easily by electric power. Electric bellows save time and worry for the blacksmith. Electric machines sew and make buttonholes in clothing factories. At Niagara are the electrochemical works where new tests and new discoveries are constantly made. Manufacturing plants far out in the country are lighted from their own little power-houses. Electric signs of changing words and colors blaze along city streets; electric candelabra make brilliant the dining-table, and miniature lights shine from modern Christmas trees. Rows of lights on the telephone switchboard announce calls to the telephone girls, and others, backed by reflectors, warn wayfarers on the road of the swift electric automobile. The dentist uses electricity, and the grocer, the engraver, the gasfitter, the optician, the shoemaker, the stationer, the tobacconist, and the tailor. In fact, it may be said that there is scarcely a man in active life who does not use electrical power in some way.

A quarter of a century ago the motor was an experiment. Even now its possibilities are only beginning to be realized. It has been estimated, for example, that less than seven per cent. of the power used in manufacturing plants in the United States is electric. New uses of electricity of which there is now definite promise will readjust many settled conditions of living. Transmission lines in their further development, the wireless telegraph, the wireless telephone, the railway motor eventually to run heavy freight and passenger trains, the storage battery, the new lights that men like Mr. Charles P. Steinmetz and Mr. Peter Cooper Hewitt have invented, and the chemical discoveries that have been made—before these are all adapted to their many uses other great improvements will be made and hundreds of lesser inventions will be working in all parts of the world.

A mechanical invention makes one thing possible; an electrical invention often makes a hundred things possible and simplifies a hundred more. It flashes a pillar of fire before the advancing civilization of the world.

"SWAMPERS" AT WORK CLEARING THE WAY FOR THE LOGS

LUMBERING BY MACHINERY

A SIXTY-MILE FLUME FOR CARRYING LUMBER FROM THE MILLS — A RAFT OF SEVEN THOUSAND LOGS EACH ONE HUNDRED AND TWENTY FEET LONG — OREGON FIR USED FOR MASTS BY SHIP-BUILDERS THE WORLD OVER — LARGE TOWNS BUILT UP BY THE INDUSTRY

BY

K. SMITH

WHAT the discovery of gold accomplished for California is being done again for the Northern Pacific States by the forests. During the past twenty years the profits to be derived from the forests have drawn to the Coast many far-seeing business men, who have built towns and given employment to an army of workmen in the logging-camps and sawmills and in many other of the varied branches of the lumber industry.

A hundred years ago logging interests were centred in the then untouched Maine forests. By 1850 these had been reduced till it was necessary to draw on the supply of the Middle West. The pine forests of Wisconsin and Michigan were cut into and in twenty-five years were making a yield equal to that of the eastern forests. In hardly more than fifteen years thereafter the Lake States were supplying more than one-third of the demand.

Some idea of the value of the lumber industry can be formed from government reports, which in 1890 ranked lumbering fourth among the great industries of the country. Further reports show that the forestry yield for 1890 alone was nearly as great as the output of gold for the fifty years following its discovery in California.

The last ten years have shown a marked decrease in the lumber yield of the lake region. Its rapid exhaustion has moved the lumber centre to the Pacific slope. Though northern California, Washington, and Oregon at present supply but ten per cent. of the demand, they contain between one-half and one-third of the entire supply of the country. It is estimated that they contain 840,000,000,000 feet of uncut timber. Enormous as the figures seem, careful estimates show that at the present rate ninety years' cutting will completely exhaust the forest regions unless measures are taken at once to preserve young growth and replant denuded areas.

THE FALL OF A GIANT CEDAR

"SIGHTING" BEFORE FELLING A GREAT TREE

The United States is one of four countries that export lumber, Canada, Russia, and Austria being the other three. Billions of feet of lumber are shipped each year from Pacific ports to Asia and South America.

The most abundant and valuable of the Coast timbers are California redwood, Washington fir, and Oregon pine. Of these, the fir is the most valuable. It rivals pine in lightness and oak in strength and durability. It grows very straight and often attains a height of 300 feet.

Ship-builders the world over have learned the exceptional durability of Coast fir and use it for masts. The United States Navy Department has recommended the use of fir on war-vessels for all wood purposes except decorative interiors. The flags on Windsor Castle and on the castle of the Japanese Emperor fly from Oregon fir. The masts and spars on the racing-yachts of Emperor William and King Edward were shipped from Puget Sound. Washington and Oregon are to supply the millions of feet to be used in building the Panama Canal.

The revenue derived from the lumber industry on the Pacific Coast exceeds that of all other industries combined. Nearly every town of the Northwest owes its prosperity to the lumber trade. Tacoma and Seattle on Puget Sound, Portland in Oregon, and

A SIXTY-MILE FLUME THAT CARRIES LOGS FROM THE MILL TO THE RIVER

A CABLEWAY THAT CARRIES ENORMOUS LOGS ACROSS A WIDE VALLEY

San Francisco for California are the principal shipping-points. The town of Everett, in Washington, is a most remarkable instance of what a great industry backed by capital can effect in a short time. Ten years ago the forest was cleared to establish a terminus for the Great Northern Railroad, where a few basket-weaving Indians were huddled at the mouth of the Snohomish River. Today a busy town of 20,000 boasts nine sawmills, twelve shingle-mills, six planing-mills, and numerous shops and factories. Its annual output in wood products alone is nearly $7,500,000.

The pioneers of the Northwest were the

THE FIRST CUT ON A WASHINGTON FIR

lumbermen. Pushing into an unbroken wilderness, they took settlers' claims of 160 acres adjacent to the rivers. They felled great trees, cut them into log lengths, dragged them by horses or oxen to the river, and there made them into rafts to be floated to the nearest mill. As the ground was cleared they moved to new claims.

Operations on western timber claims are conducted on a gigantic scale. One company owns 1,000,000 acres of heavily timbered land, employs about 500 men, uses seventy-five

horses, twenty "donkey-engines," and has built nearly one hundred miles of railway.

The work of a logging-camp is systematized as nicely as that of a factory. Each man has but one kind of work to do. Except for an occasional heavy rain, the men work the year round. The long winter has very little snow, but there is a succession of gray days filled with a misty, fog-like rain, heavy enough to keep things dripping, but not heavy enough to stop work.

THE NEW WAY

Donkey-engine dragging a log to the landing. "Hook-tenders" riding in

When a camp is established a cook-house and bunk-house are built. Before dawn the cooks are busy preparing breakfast, and the day is still new when the men begin work. Within an hour the wood echoes to the signaling toot of engines, the ringing blows of axes, the steady scrape of saws, and the thundering crash of falling trees.

The trees that are to fall are marked by men who tell at a glance which to select. They decide the direction the tree shall fall and cut a notch on each side of the tree. In these notches are stuck spring-boards, on which the fellers stand to work. Two fellers work on one tree, using a saw eight or ten feet long, with a handle on each end. For the very large trees it is necessary to splice two of the saws together.

The first cut is made from six to eight feet from the ground—high enough to avoid the hard grain and heavy sap at the base of the tree. It is made on the side of fall, at a true right angle to the line of direction and about one-third through the trunk. When in its fall the tree might crash into other trees or be shattered by an elevation of the ground, the men sight very carefully to get the direction, and so skilful are they in making the undercut and in the use of wedges that they can send the tree to the ground within a very few inches of the position decided

THE OLD WAY OF LOADING WITH OXEN

A TYPICAL RAILROAD SCENE IN THE NORTHWEST

The road runs for miles through dense pine forests

upon. After making the undercut with sharp two-edged axes, the fellers begin sawing from the opposite side. A bottle of coal-oil hangs against the tree to clear the saw of resin

The cut made, wedges are inserted to guide the fall. The giant bends, there is an ominous cracking, then a thunderous roar as the tree pounds against the earth, which trembles from the blow. The echo is hardly still before the tree is measured into lengths

"Swampers" clear away the underbrush and make a passage for the logs, which are pulled into position by a horse. The "hook-tender" then takes charge and fastens to the log by gripping-hooks a heavy chain attached to a cable.

Formerly the logs were moved by ox-teams or horses, as in eastern camps, but the great size of Coast timber has made the use of engines much more practicable, and nearly all the well-equipped camps have

A DONKEY-ENGINE LOADING FLAT CARS AT A LANDING

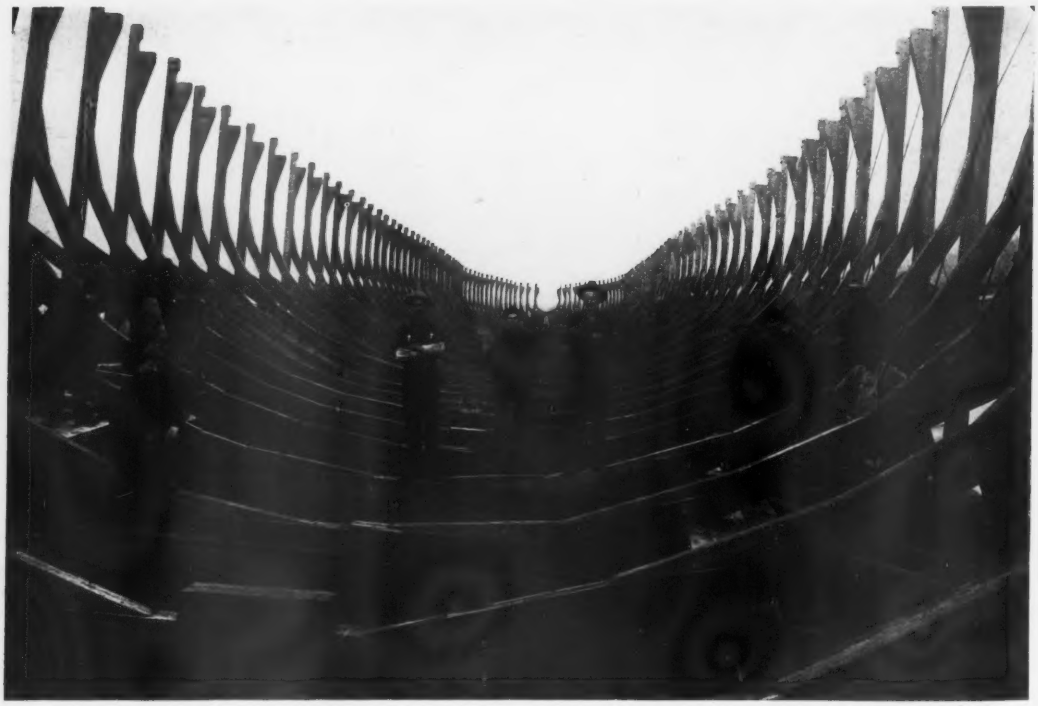
of from twenty-eight to forty feet, and the fellers are gone to the next tree.

"Buckers" cut the tree into logs, using a stiff saw very like the fellers', but with only one handle, as most of the cuts can be made by one man.

"Barkers" chop the bark from the side on which the log is to be dragged. This is very necessary, as the bark is so stout and rough that it catches and hinders the movement of the log.

supplanted the picturesque ox-team by busy tooting "donkey-engines." These engines have reels wound with steel-wire cable from one-half to one inch thick and from 500 to 3,000 feet long. Two engines are stationed the length of the cable apart. One, called the yarding-engine, drags the logs from the place of fall to the main road. The cable from the other engine is then fastened to the log, which is dragged swiftly over the "skid road," either to the nearest stream, where

RAFTS OF LOOSE LOGS AT THE MILL ON THE WILLAMETTE RIVER



THE EMPTY "CRADLE" FOR BUILDING A GREAT RAFT—ON THE COLUMBIA RIVER, NEAR ASTORIA

logs are made into rafts and floated to the mill, or to the branch railway landing.

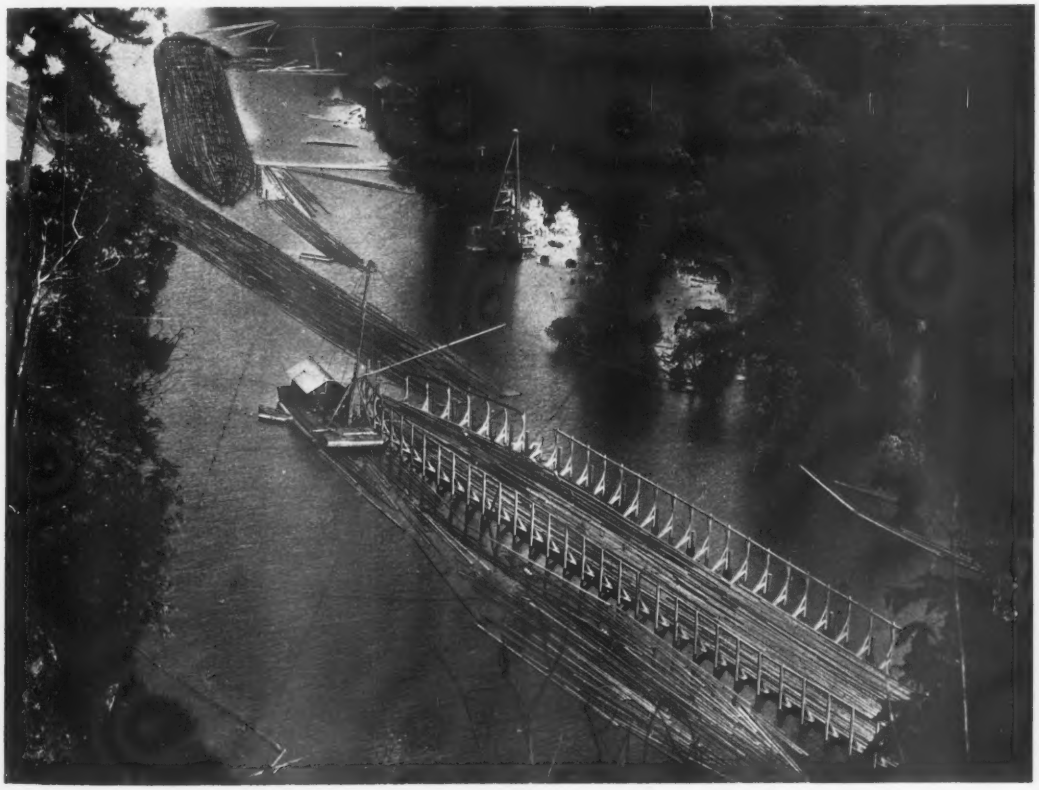
Nothing but a break in the cable stops the progress of a log. Turns in the road are made by running the cable over blocks fastened to trees and stumps. As these are reached the hook-tender signals, the engine stops till the block is removed, when the log travels on. The cable from the landing-engine is drawn back to the yarding-engine by a smaller cable which trails after the log.

The hook-tender must see the logs safe to the landing. Venturesome ones often jump on the moving log and ride in. This is forbidden, as any small obstacle may cause the log to turn suddenly and maim its rider.

The same engines do the work of loading cars. A block is suspended above the car, and over it is passed a cable with heavy hooks on the end. The hooks are fastened in the log, and as the cable is reeled the log is drawn on an incline from the landing to the car. Men guide the logs with iron-shod poles.

The engines run by steam, and all day long a pack-horse is kept busy carrying water. When the engines are moved the heavy chains that hold them in place are unfastened, one end of the cable is attached to a distant tree, and as the cable is wound the engine hobbles over the ground like a great panting, clumsy monster.

Many thousands of dollars are spent in building skid roads and branch railways to facilitate the handling of the timber. The location and lay of the land often call for ingenious application of varied mechanical devices. A lumber claim in Oregon that lies on both sides of a deep cañon has a steel cable stretched across the cañon. Great logs, swinging on a chain by one end, slide across on a pulley, just as the package-baskets in a department store go to the desk. A California sawmill in the heart of the Sierras is connected with the outside world by a flume sixty miles long. Six days of the week dressed lumber goes sailing down



ON ONE OF THE TRIBUTARIES OF THE COLUMBIA

View showing a finished raft, a cradle being filled, and a raft of loose logs to go into the cradle

on this flume, skirting the sides of high mountains, across deep gulches, following the bend of the cañon till it reaches the valley shipping-point.

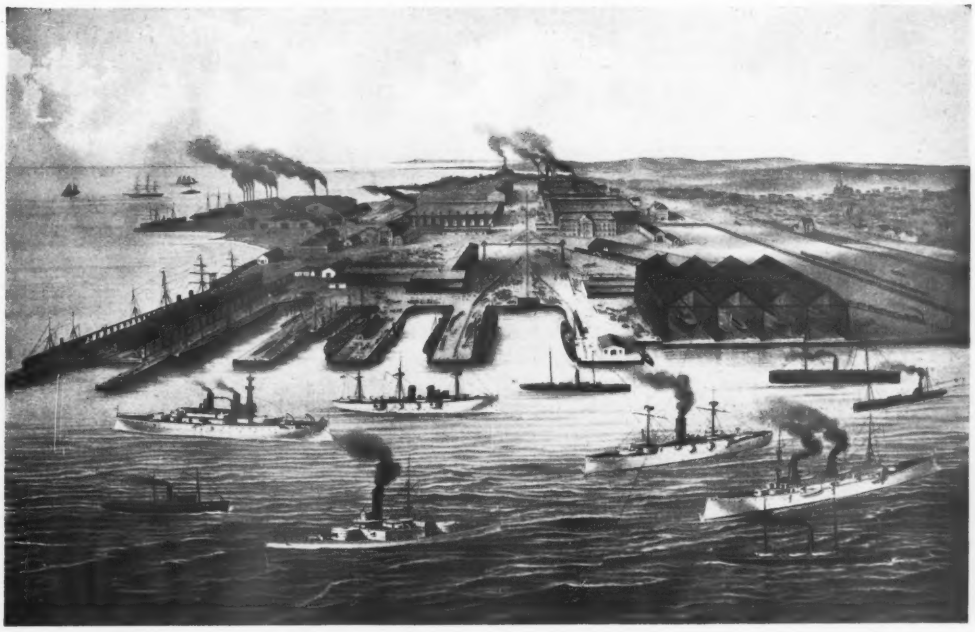
The rafting business between Columbia River points and San Francisco is fast becoming prominent. In the fall of 1902 a monster raft 700 feet long, 53 feet wide, drawing 22½ feet of water, and 12 feet from the water's edge to the top, was safely towed 700 miles to the Golden Gate. The logs, which were for piling, telegraph-poles, etc., were 120 feet long and from 12 to 20 inches in diameter. In all, there were 7,000 pieces, valued at $60,000.

A GIANT RAFT ON THE COLUMBIA RIVER, BOUND FOR SAN FRANCISCO

To build these rafts a great "cradle" of heavy timbers is built on a slough connected with the Columbia River. A row of piling is driven in deep water. The frame of the cradle floats up and down on this row of piling and is held in place by it. A large scow with a derrick on it is anchored beside the cradle. Log-booms or small rafts are towed to it, and one by one the logs are lifted by the derrick into the cradle, where men fasten them securely with heavy chains and cables. From 80 to 100 tons of chain are used on one raft. When the raft is finished the keys that held the parts of the cradle together are drawn, engines pull away the side of the cradle opposite the piling, and the raft floats out on the water. Tugs then go steaming with it to the river, down the Columbia, and out on the ocean. Occasionally the rafts have been towed south by one steamer, but usually they are conveyed by two tugs, one at each end.

The men in the logging-camps are sturdy, active fellows. About three-fourths of them are of Scandinavian birth; the rest are French-Canadians and Americans. Wages in logging-camps vary from $40 to $100 a month and board. A few unions have been organized, but they have little power. Strikes are practically unknown. Whatever differences arise between the companies and employees are generally settled by the "bosses" in charge of the men.

THE UNION IRON WORKS, OF SAN FRANCISCO
The largest ship-building yard in the combination



ONE TRUST AND WHAT BECAME OF IT

THE STORY, TOLD MAINLY BY ITS CREATORS, OF HOW THE UNITED STATES SHIPBUILDING COMPANY DISCOVERED ITSELF AFTER A YEAR OF EXISTENCE TO BE NOT A $71,0000,00 COLOSSUS, BUT "MERELY A THEORY"

BY

HENRY WYSHAM LANIER

"2 + 3 = 23 (less as much as the public suspects of the truth)"—*The New Financial Arithmetic*

IF an outsider had been privileged to be present in a certain Jersey City office on June 24, 1902, he would have been profoundly impressed. For in spite of billion-dollar corporations and the vastness of American industrial expansion, most of us are still not on particularly intimate terms with millions in the flesh; and the three men who sat about a table in this office on the day mentioned weremaking financial history on a large scale. These magnates were the president, the vice-president and the secretary and treasurer of the United States Shipbuilding Company (familiarly known as the "Shipbuilding Trust"); and since they comprised the entire board of directors, they proceeded to consummate business of vast importance.

The secretary-treasurer read a long and detailed letter from one John W. Young, offering to sell to their company the entire capital stock and property of seven shipbuilding concerns (one of them among the three largest in the country), the Bethlehem Steel Works, and sundry trifles of real estate and the like, for about $71,000,000 in stocks and bonds, and this offer was immediately and unanimously accepted, without even a discussion.

"Clearly," the innocent beholder would have remarked, his eyes bulging with wonder, "these men must be giants of industry, at whose tread the world of finance shakes, to handle thus so huge a deal."

Yet one may look in vain in the financial

directories or the lists of "wealthiest Americans" for the names of these gentlemen: Louis B. Dailey, Frederick K. Seward, and Raymond Newman. Indeed, we have Mr. Dailey's own word for it that he did not even have a bank account at the time.

"At least, then, they must have been ship-building experts, familiar with every detail of the business and of the plants purchased."

Well, the vice-president testified a year later that he had never heard of the Hyde Windlass Company, one of the concerns he bought; the secretary-treasurer was aged twenty-five, an eight months' lawyer, an ex-insurance agent and bill collector: on the witness stand he expressed belief that the Bethlehem Steel Works, also purchased, was located at Homestead Pa. (it is really at Bethlehem), and declared that he knew the Canda Manufacturing Company (another plant in the deal) was in the ship-building business because he had seen its firm name stamped on a piece of ironwork on a Fall River steamer! (The Canda plant made car-wheels when it did anything—and the best-informed people are still wondering what good it was supposed to be to the ship-building concern.)

It does not take any special acuteness to see that these three individuals were "dummies," going through the forms of directors' duties at somebody else's direction. In point of fact, to leave one of the most farcical proceedings on record in modern business, they were all irresponsible young clerks in the office of a trust company in New Jersey, who voted for anything that was put before them as part of their regular routine duties. They were puppets, who made motions when the string was pulled. The question becomes

WHO PULLED THE STRING?

The investigator gets little light on this by a glance at the natural point of inquiry—the beginnings of the ship-building company itself. This enterprising concern had come into being only a week before the events narrated. It was capitalized at $3,000, and the three incorporators were Howard K. Wood, Horace S. Gould, and Kenneth K. McLaren, who subscribed for all the thirty shares of preferred and common stock. These individuals seem to figure in no public records I have been able to discover outside of the Jersey City Directory; but by a strange coincidence they, too, were all employees of the same trust company. Mr. Gould declared on the witness stand that he "received from somebody a share of preferred and a share of common stock," and saw these paid for at the incorporators' meeting with a check drawn "on or by the Trust Company of the Republic." Not much in the way of responsibility here!

Now, it was from these three incorporators that our three "dummy" directors obtained a supposedly legal right to exercise their function, Mr. Wood (one of the former) assigning *his right* to one share of common stock to each of them to qualify them for the office. *But the records show no stock whatever issued to these gentlemen or placed in their names*—which raises an exceedingly interesting point of law as to whether the Shipbuilding Company ever had any legal existence, or if it was not as Mr. Untermeyer claims, "merely a theory."

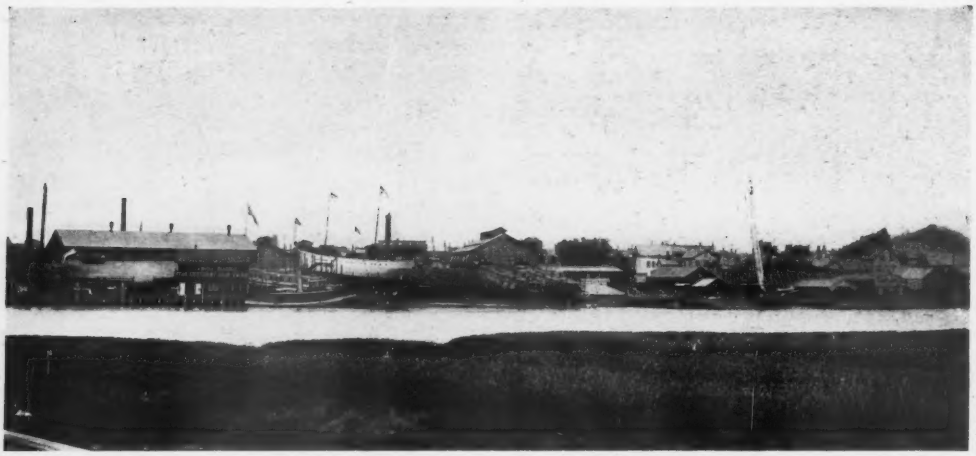
In a word, therefore, during the incorporation of the company and during the most important acts of its career—raising its capitalization from $3,000 to $71,000,000 and spending the whole thing for a group of shipyards—no one of the responsible people appears in any official record. Fortunately, the efforts of two men have helped to pry the lid off this mysterious pot sufficiently to give the public a sight of the devil's broth inside. James Smith, Jr., the receiver, in his extraordinary report of October 31st, and Samuel Untermeyer, the lawyer conducting the case for the *bona fide* bondholders, with the help of some financial and shipping experts, have enabled us to come very close to the details of one of the most amazing and disgraceful chapters in American business history.

THE FIRST OF THE SHIPBUILDING TRUST

People who ought to know say that the original idea of the combination came from Mr. Lewis Nixon. This much is certain: nearly two years before the project finally took shape the trade was full of stories regarding such a consolidation, and these all centred around Mr. Nixon. Mr. Nixon had been a government naval engineer of distinction: many of the battle-ships now being built are from his designs; he resigned from the navy in 1890 to go to the Cramps, and started the Crescent yards in 1895, with what he called a "capital" of $10,000, including in this term his lease, his salary as consulting

CHARLES M. SCHWAB

WHO "SOLD" THE BETHLEHEM STEEL WORKS TO THE UNITED STATES SHIP-BUILDING COMPANY IN SUCH A MANNER THAT HE CONTROLLED BOTH CONCERNS



THE CRESCENT SHIP-BUILDING YARD AT ELIZABETH, N. J.

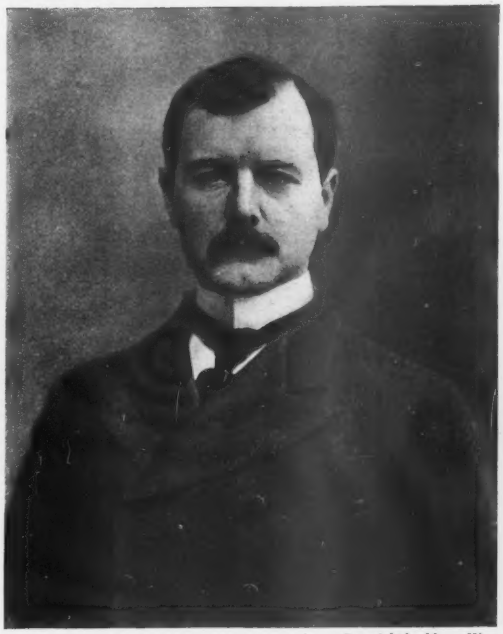
Started by Mr. Nixon in 1895, capitalized at $1,200,000 just before it was taken in by the combination, and now recommended by the receiver to be sold. The first week after it joined the United States Shipbuilding Company the central organization advanced several thousand dollars to pay wages here, and Mr. Nixon testified that the yard was "a burden" on the Trust up to the end

engineer from the Cramps, and his contracts! The only statements he would make on the stand as to working capital were that he had "very little" and that his first deposit was $700. From these insignificant beginnings Mr. Nixon made a success; he tells us he built "a hundred ships" in six years; he began to be looked on as one of the coming men in business and politics.

The ship-building plan was first discussed,

LEWIS NIXON

Official head of the United States Shipbuilding Company during most of its brief existence. A photograph made in his own Crescent yard



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W. D. GUTHRIE

Counsel for the United States Shipbuilding Company in the suit brought by the bona-fide bondholders

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SAMUEL UNTERMEYER

Counsel for the bondholders in their suit against the Shipbuilding Trust. It has been largely through Mr. Utermeyer's efforts that the public has learned so much of the inside history of the combination

he says, in Andrew Freedman's office, in a talk between himself and John W. Young during 1900. This projected amalgamation fell through because the bankers in charge, Poor & Company, failed to collect the necessary subscriptions.

But some time during the winter of 1901–2, Mr. Young, or somebody, had an inspiration to the effect that the psychological moment had at last arrived. Mr. Nixon had become the ostensible head of Tammany Hall that

Photographed by Walters

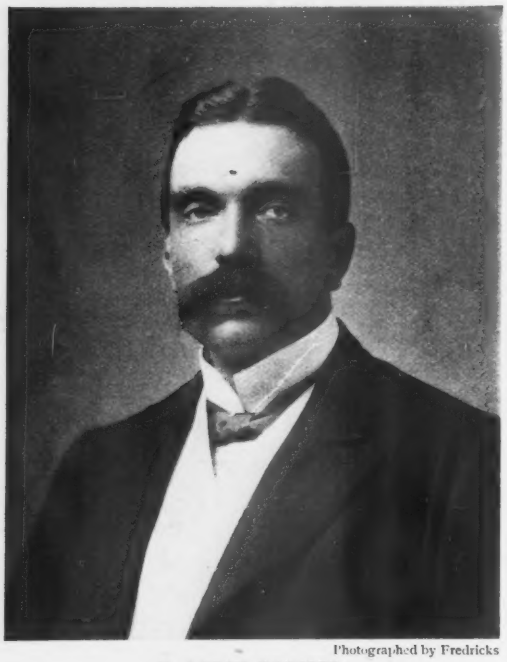
HONORABLE JAMES SMITH, JR.

The receiver of the Shipbuilding Company, whose remarkable report alleges wilful dishonesty on the part of some of the manipulators of the concern

November; bewildering political possibilities appeared on his horizon; no wonder that he was considered and came to consider himself a man of destiny.

Very shortly things began to happen.

No one ever claimed for Mr. Young a knowledge of ship-building, but his gifts as a promoter seem to come legitimately from the character of the great Mormon leader, his father. He scurried abroad to see about



Photographed by Fredricks

D. LEROY DRESSER

Formerly head of the Trust Company of the Republic, which underwrote the Shipbuilding Company's bonds in this country

Moses King

COLONEL J. J. M'COOK

A prominent figure in the formation of the United States Shipbuilding Company

having $6,000,000 of bonds "underwritten" by London and Paris financiers. Speedily the air of maritime and financial circles became thick with rumors of a great consolidation which was to take in the Cramps, Roach's, the big Newport News yards, the Union Iron Works, and any number of lesser concerns, controlling the whole American

Private and Confidential. **Preliminary Prospectus, April 19, 1902.**

The United States Shipbuilding Company.

A corporation to be organized under the laws of the State of New Jersey, either by that or some similar name, proposes to acquire the plants and equipment, of the following concerns or their capital stocks, free from any liens:

THE UNION IRON WORKS,	San Francisco, California.
THE BATH IRON WORKS, LIMITED, AND THE HYDE WINDLASS COMPANY,	Bath, Maine.
THE CRESCENT SHIP YARD AND THE SAMUEL L. MOORE & SONS COMPANY,	Elizabethport, New Jersey.
THE EASTERN SHIPBUILDING COMPANY,	New London, Conn.
THE HARLAN & HOLLINGSWORTH COMPANY,	Wilmington, Delaware.
AND THE CANDA MANUFACTURING COMPANY,	Carteret, New Jersey.

Issue of $9,000,000 Series A First Mortgage, Five Per Cent. Sinking Fund, Gold Bonds, due 1932, part of an Authorized Issue of $16,000,000, Bonds of $1,000 each, $5,500,000 being Withdrawn from Public Issue for Disposal under the Vendors' and Subscribers' Contracts, and $1,500,000 being Reserved in the Treasury of the Company. Additional Bonds may be issued only for the Purpose of Acquiring Additional Plants and Equipment and for Improvements and Betterments, upon such Terms and Conditions as shall be Approved by the Holders of a Majority of the Bonds under the Present Issue Outstanding at the Time of such Approval.

CAPITAL STOCK.

Preferred Stock, Six Per Cent. Non-Cumulative	$10,000,000
Common Stock	$10,000,000

DIRECTORS.

HENRY T. SCOTT, President of The Union Iron Works.
LEWIS NIXON, The Crescent Ship Yard.
JOHN S. HYDE, President of The Hyde Windlass Company.
E. W. HYDE, President of The Bath Iron Works, Limited.
CHARLES R. HANSCOM, President of The Eastern Shipbuilding Co.
IRVING M. SCOTT, Vice-President and General Manager of The Union Iron Works.
CHARLES J. CANDA, President of The Canda Manufacturing Co.
HORACE W. GAUSE, President of The Harlan & Hollingsworth Co.

Other Directors will be named after the Company is constituted.

TRUSTEE FOR THE BONDS.
THE MERCANTILE TRUST COMPANY,
120 Broadway, N. Y.

BANKERS.
TRUST COMPANY OF THE REPUBLIC,
116 Broadway and 71 William St., N. Y.

TRANSFER AGENTS.
TRUST COMPANY OF THE REPUBLIC.

COUNSEL.
ALEXANDER & GREEN.

EXAMINING AUDITORS.
W. T. SIMPSON and RIDDELL & COMMON.

TEMPORARY OFFICES.
120 BROADWAY, - - NEW YORK.

PAGE ONE OF THE "PRIVATE AND CONFIDENTIAL" PROSPECTUS OF APRIL 19, 1902, WHICH THE RECEIVER SAYS WAS FULL OF GROSS MISSTATEMENTS

industry. In April (1902) a preliminary prospectus marked "Private and Confidential" was put into circulation. This contained a letter purporting to be signed by a firm of expert accountants, says the receiver, but "making such exaggerated representations with reference to the profits, present

and prospective, as to make it absolutely worthless as a guide to the real condition of the plants." Moreover, the later reports from the same accountants contradicted it entirely. The gentlemen in charge, mindful of the public coyness two years before, were taking no chances of failure due to understatement.

MR. DRESSER, FINANCIER

In this precious document it was stated that the Mercantile Trust Company (with which Mr. Young was affiliated) was the trustee for the $9,000,000 of bonds—which meant, apparently, that it was entrusted with the task of unloading the burden onto somebody else's shoulders. The ideal pair of shoulders had just appeared upon the banking horizon in the person of an amateur financier, D. Leroy Dresser, whose loudly heralded Trust Company of the Republic was a scant four weeks old. Mr. Dresser had been for some years a well-known figure in mercantile circles, and the social and financial prestige accruing from his connection by marriage with one of the richest New York families was an important asset in his new departure.

To him late in April came Colonel J. J. McCook, of the firm of Alexander & Green, offering him a rare stroke of business with which to inaugurate his triumphal career; $6,000,000 of the $9,000,000 required had already been arranged for in London and Paris—did not Mr. Dresser wish to clean up half a million by underwriting the remainder?

Mr. Dresser was delighted; and forthwith the Trust Company of the Republic became transfer agent of the combination. In ten days the sum had been raised.

The memorandum left by this agent with Mr. Dresser shows an allowance of $3,000,000 for underwriting commissions and $12,000,000 for "promotion"!

In a few days came Colonel McCook again. The Londoners, with the proverbial stupidity of Britons, were slow in taking up their allotment of subscriptions. Paris had been permitted to have another million and a quarter and the promoters had decided to give Mr. Dresser the first chance at the remaining $1,750,000. Mr. Dresser was still more delighted, and added sixty per cent. to his mental profits.

So, thus far, everything seemed to be going swimmingly. The Paris underwriting was being taken care of by a special agent, the American end was arranged, and the actual work of getting out the bonds began. The most important step in this was naturally the preparation of a prospectus which should show the fortunate investors among the public what they were buying and what an unimpeachable directorate had lent its countenance to the enterprise.

ENTER MR. SCHWAB

During these literary labors an odd change took place in the situation. The inventory of available assets for enumeration comprised seven ship-building concerns and the Canda Manufacturing Company's real estate. Possibly these did not easily add up to the rotund figures so freely exploited hitherto; those in charge of the affair may have begun to realize that several of these yards were, in Wall Street parlance, "cats and dogs"; probably there were premonitions of an inexplicable hesitancy on the part of the French underwriters, who had been entrusted to the charge of Mr. C. B. Alexander, and the amalgamators began to feel the need of more and substantial metal instead of "hot air" in the crucible. At any rate, on June 11th, while Mr. Nixon and Mr. Dresser were lunching at the Lawyers' Club, they met Charles M. Schwab, who had subscribed to $500,000 worth of bonds in the first attempt and had renewed his subscription in the present venture.

"Why don't you buy the Bethlehem plant?" asked Mr. Schwab casually in the course of the conversation.

Mr. Dresser expressed surprise at this question; he thought the Bethlehem works were owned by the Steel Trust.

Mr. Schwab assured them, however, that he controlled all the stock, and proceeded to prove that the "logical place" for the plant was in the shipyard combination. Then the party broke up, he suggesting that they should come to his office next day to talk it over.

Mr. Nixon was greatly impressed. From his testimony it seems probable that the steel works had been in his mind before, and that he had even discussed with Mr. Schwab their value to the ship-building company. He had believed in the combination idea originally, he says, because he had become impressed with the disadvantages of American ship-

builders in having to construct a variety of vessels in the same yard.

"For instance, there was one time when the Cramps were putting together simultaneously a battleship, a revenue-cutter, a pleasure-yacht, and a big ferry-boat. I don't believe the Almighty Himself could have practised economy under those conditions."

So he hoped to specialize, using each plant for certain kinds of vessels, abolishing the distributed designing work, and centralizing at Bethlehem the best force of designers obtainable. Moreover, as he declared later, in showing why he wanted the steel works:

"In no country was there one plant that could make a complete ship, as we wished ours to do. The Krupps built guns, but not ships. Another built ships, but not armor or guns. So it was over the world. I knew if we could arrange to build them all we could secure an unprecedented prestige."

Besides, the Bethlehem was a most tangible and substantial addition to the prospectus aforesaid, which needed bolstering at this crucial time.

So he and Mr. Dresser met Mr. Schwab as appointed, and the latter repeated his statement that he owned all but fifteen or twenty shares, which he could get. He told them to wait till he could cable J. Pierpont Morgan regarding the matter.

The following day they called again. No mention was made of Mr. Morgan this time, but Mr. Schwab declared he was ready to sell. The stock had cost him $7,200,000; the plant had earned that year $1,400,000 net above all charges, and would make easily twice this before long. There was a first mortgage on it for $8,000,000, he added. He was willing to sell for $9,000,000 cash.

Mr. Nixon was more than ever eager to buy when he heard of these net profits, for he afterward testified that from his expert knowledge he was sure they were bound to "increase greatly year by year." The little matter of an eight-million-dollar prior lien seems to have had no significance for either him or Mr. Dresser.

On one point they were clear: the ship-building company had no cash to spare, but Mr. Dresser solved the difficulty by suggesting that Mr. Schwab take $10,000,000 of bonds, to which was presently added a bonus of $9,000,000 of common stock and the same amount of preferred.

Again Mr. Schwab postponed the talk; but on the afternoon of the same day he made a counter proposition, increasing the stock bonus to $10,000,000 of each issue and explaining that he had to give a quarter of this to J. P. Morgan & Company. On this basis it was agreed that his lawyer, Max Pam, was to draw up a contract.

This was June 13th.

On June 14th, *three days before the company was incorporated*, and two months before the Bethlehem contract was signed, an elaborate prospectus was issued to the public asking for subscriptions to the bonds.

AN UNKNOWN FICTION WRITER

Mr. Dresser says that either Mr. Deming or Colonel McCook (counsel for Mr. Young and the ship-building company), supplied most of the "facts" for this document. It is a pity that such an alluring romance must so far remain anonymous. Whoever the author, he did not dally on the plateaus of exaggeration, as in the first "private and confidential" communication, but soared boldly into the heights of falsehood. The very first statement was a lie—"this company has been organized under the laws of the State of New Jersey." Leaving aside for the moment the important question of the value of the constituent plants, here is the sad havoc the receiver's unimaginative and distressingly practical report makes of the six main statements:

PROSPECTUS	THE TRUTH
1. The company has been organized—	1. It didn't exist.
2. Its total capital stock is $20,000,000, half preferred, half common stock.	2. The capital stock began three days later at $3,000 and was "boosted" to $45,000,000.*

* The reason for this misstatement is interesting. The stock was to have been $20,000,000. When the Bethlehem deal was consummated this had to be raised to $40,000,000 to give Mr. Schwab his bonus of stock. But Mr. Dresser declared he was doing much and getting nothing, so the promoters clapped on an extra $5,000,000 and divided it up—$1,000,000 to Dresser, $1,000,000 to Pam, $1,000,000 to the Trust Company of the Republic, $1,000,000 probably to Schwab, and $1,000,000 to Nixon, which he turned over to the ship-building company. A queer conception of "stock," this! And the gentlemen in charge didn't even bother to change the $20,000,000 to $45,000,000 in their statements to the public.

3. Its ten directors are—	3. Six of these ten were not and never became directors.
4. The company has in hand contracts amounting to more than $36,000,000.	4. The *uncompleted* part of these contracts was less than $20,000,000.
5. The combined working capital is over $5,000,000.	5. The accountants only showed $3,250,000—most of which was "obliterated by subsequent adjustment."
6. The profits will be over $5,000,000 in the next eighteen months.	6. They were actually about $1,000,000—realizable in three years.

Although there were various imposing statements from chartered accountants, most of the valuations and figures were prepared, Mr. Nixon says, by John W. Young, the promoter, and with a touching confidence he accepted them blindly. He even refused to value his own plant, lest he lay himself open to the charge of unfairness; but by way of fixing an "upset price" he incorporated it (the Crescent yards) on the eve of the combination for $1,200,000, $3,000 of this being paid in. If this seems high, one should turn back to Mr. Nixon's idea of "capital."

Mr. Dresser asserts for his part that the "O. K." of the Mercantile Trust Company and of Colonel McCook (both Mr. Young's agents, apparently) as to the representations were good enough for him. So the Trust Company of the Republic, as the American financial agent of the combination, issued this tissue of falsehoods and blazoned it through the newspapers before the investors of nine cities.

Three days afterward, as already related, the ship-building company first actually came into existence, and the following week the automatic "directors" accepted John W. Young's offer of all the constituent plants, raising the capitalization and indebtedness from $3,000 to $71,000,000 to pay for them—actions not ratified by the dummy stockholders till July 31st, so that the actual conveyance of the properties did not occur till between August 5th and 12th.

Before returning to Mr. Schwab and Bethlehem (the contract for which had not even been drawn), let us see just what our three "dummy" directors got for the $70,000,000 of securities paid to Mr. John W. Young. The minutes assert their action was based upon reports from two firms of expert accountants, but the actual figures are so different, says the receiver, "as to impel the belief that the figures contained in the minutes were wilfully misstated." Probably there was really no accountants' report made as of that time. (In more than one case the ingenious promoters of this scheme had a pleasant way of presenting as true, say, in July, part of what had been reported the previous December—with deductions that may be imagined.)

Anyhow, by the acts of these youths the United States Shipbuilding Company acquired all the capital stock and property of the Bath Iron Works, the Hyde Windlass Company, the Crescent Shipyard Company, Samuel L. Moore & Sons Company, the Eastern Shipbuilding Company, Harlan & Hollingsworth Company, and the Union Iron Works, the stock of the Bethlehem Steel Company, and the real estate of the Canda Manufacturing Company. The net surplus of these concerns, as shown by their own books on July 31, 1902, amounted to about $12,000,000; the company paid for them $68,000,000 ($1,500,000 of cash and the same amount of bonds were returned to it).

That is to say, the directors gave away for no equivalent $56,000,000.

Mr. Nixon might say, however, that book values are not to be considered in such a case, and that one must look to the earnings of the plants for their true valuation.

The directors' minutes assert the earning capacity to have been $4,000,000 a year—$2,250,000 for the shipyards, the rest for Bethlehem. A careful investigation by the receiver shows that the *full capacity* of the yards was only $14,000,000 a year, while $12,000,000 was the average volume of business—and the average annual profit did not exceed 10 per cent., or $1,200,000. (The actual earnings for the year ending July, 1903, were only $833,000.) The actual earnings of the Bethlehem company had been less than $400,000 in 1900–1 and less than $1,000,000 in 1901–2.

Even with good times, therefore, the company could not have met its obligations on its bonds and preferred stock, to say nothing of the $20,000,000 of common stock; and these years had been anything but good

times for ship-builders. It was, on the contrary, a period of extreme depression, due to increased cost of materials, labor troubles, and the loss of hope of subsidy legislation—a period which caused the oldest and best-known firm of ship-builders in the country to part with the control and a three-fourths interest of their business for money to meet their obligations.

Possibly there were other advantages? Increased working capital and economies are the shibboleths of the trust-builders. As to the former, instead of the $3,250,000 claimed for the yards, there was only about half that amount, and leaving out the Union Iron Works, the other six concerns showed an aggregate *deficit* of $294,000! As Mr. Smith remarks, not only did they collectively have no working capital, but they were "in immediate need of financial assistance." One of Mr. Nixon's strong arguments was economies: yet this preposterous agreement saddled the combination for five years with fourteen irremovable local managers, engineers, and the like, at salaries aggregating $125,000.

Details might be multiplied, but they are not necessary. The facts above are indicative of the conditions which one finds at each probe into the affair, and they amply justify the receiver's assertion that

> "it seems to have been the intention of those responsible for the statements and figures . . . to mislead and deceive the investing public and the then present and future creditors of the company."

But to continue our story.

The first weeks of July saw a deal of cabling from Paris by Mr. Young and Mr. Alexander regarding the bonds supposed to be placed there. The latter's messages comprise most amusing personal reports on the financiers involved—how this one had a rich mother, and that one kept a steam yacht, and the other was a "stupid boy," and these were "hysterical women ready to ruin themselves by a default on the indication of any hostile Jew banker."

But despite Mr. Alexander's "heart to heart talk" with Rogniat (who had originally undertaken the whole $3,000,000), nothing came from France except his own frequent sanguine and comical reports.

In this state of affairs Messrs. Dresser and Nixon went to Schwab's office again to close the Bethlehem deal. Here they were confronted by a proposed agreement which startled them. It provided that on August 11th they should purchase the works from J. P. Morgan & Company, "syndicate managers," for $7,200,000.

They declared they had made no such bargain and didn't have the money; but Mr. Schwab insisted that his "personal affairs" made it necessary to do the thing in this way. It was all right. He would furnish the $7,200,000.

The formal statement issued by Morgan & Company during the investigation helps to solve this mystery. Mr. Schwab knew that the Morgan firm, as managers of the United States Steel Syndicate, were holding the stock till they could find a purchaser at cost. He supplied the purchasers, taking as a commission pretty much everything in sight, as will be shown.

On the appointed day in August (in the same week in which all the other plants were actually taken over by the ship-building company), Nixon and Dresser, George W. Perkins, and Schwab's representatives (he had gone to Europe) met at the Morgan office. The private secretary turned over to the ship-building gentlemen Schwab's check for $7,200,000; this was handed to Mr. Perkins; the Bethlehem stock was given to the ship-building company's lawyer—Mr. Nixon says it was put into some trust company, he didn't know which, by somebody, he didn't know whom; orders were presented to Max Pam, Schwab's lawyer, for $10,000,000 of bonds, $10,000,000 of preferred stock, and $10,000,000 of common; Mr. Nixon as vice-president (though he was not yet a director) "glanced through" the mortgage for $10,000,000 which was to secure Mr. Schwab and signed it. He says naïvely that in a conversation with Max Pam the lawyer told him that this "ought to be very strict," to guard Mr. Schwab against loss, adding: "I did not consider myself competent to pass on these legal documents. I signed all the papers that were laid before me."

NIXON SIGNS AWAY THE SHIP-BUILDING COMPANY

What he signed this day gave Mr. Schwab for his $7,200,000 check the $30,000,000 of securities described, less $5,000,000, which

the latter says went to J. P. Morgan & Company, with this mortgage containing a provision *by which his bonds had voting power.* Since the stock issue was only $45,000,000, the literal result was that Mr. Schwab did not sell his steel works, but kept it and took over the ship-building concern! From that day he was in absolute control. Fearing, however, that "something might have been overlooked," his advisers added a contract by which the ship-building company guaranteed the payment of six per cent. dividends on the Bethlehem stock and agreed to keep the working capital of the steel company always up to $4,000,000.

Finally, it was triangularly agreed that the Schwab securities (Mr. Dresser says, also, those given to J. P. Morgan & Company, but that firm denies being a party to any such agreement, and declares that their stock was sold privately for $75,000, which was distributed as part of the profits of the steel syndicate) should be marketed before any of the others were offered to the public, and that Harris, Gates & Company should "make a market" for the stock at $65 for the preferred and $25 for the common.

Comprehensive and thorough that day's work was. Mr. Schwab could apparently either sell out at a profit of over $9,000,000 cash, or sell a couple of million dollars' worth of bonds and still hold the whole thing in the hollow of his hand.

The only plausible explanation of this amazing proceeding is that by using the acquisition of Bethlehem everywhere as their foremost asset before it was actually acquired, and by the blazing irregularities already described, the ship-building company had put itself absolutely at Mr. Schwab's mercy.

Thus did the United States Shipbuilding Company commence actual operations in September, 1902, already a water-logged wreck.

Mr. Nixon was the ostensible head of the concern, having been elected president on September 10th, but he devoted himself entirely to the "practical" work, merely signing any papers put before him. He was "not interested" in these financial transactions, he tells us, and felt entirely at ease, knowing they were in the hands of those "responsible financiers, Mr. Dresser and the Trust Company of the Republic"—which surely needs no comment and belongs in the literary collections of "wit and humor." In this blithe manner, for instance, he endorsed notes for more than $4,000,000 "as an accommodation to Mr. Dresser" when that gentleman's Trust Company of the Republic began to realize that underwriting bond issues was not all beer and skittles—and had to raise money. He explains that "everybody knew" he wasn't worth that amount; it was a mere friendly form.

Mr. Schwab's actions can hardly be said to have lacked practicality. To be sure, he sailed off to Europe to rest after his labors, but Max Pam was left in charge, and he absolutely controlled the board of directors through Mr. Schwab's holdings. Mr. Pam was not elected chairman of the executive committee until December, but as a recognition of his efforts his salary of $18,000 a year was made to begin with the previous September.

Late in that same year application was made to the Stock Exchange for the listing of the entire stock and bond issue, and the statement furnished to the Exchange is what one might expect from the above recital. This statement was signed by A. C. Gary, treasurer of the company, and Mr. Nixon says it was prepared by Max Pam. It recited that the separate concerns had made nearly $3,500,000 in the year preceding consolidation—which was untrue, and that the net earnings of the yards for the three months following combination were $500,000, plus $609,000 for Bethlehem—which was also untrue, the fact being that the combined concerns had been compelled to advance in cash to the constituent companies over $400,000. It said that on July 31st the concern's working capital was $1,892,317.57—which was a most complicated falsehood; for on that day the company owned no property whatever. The truth was that on September 5th $1,500,000 of cash was entered on the company's books. Mr. Untermeyer says this came from the general deposits of the Trust Company of the Republic; that it was turned over by Mr. Dresser to certain banks and then borrowed temporarily by the ship-building company, Mr. Nixon signing the notes for it.

The statement was accepted and the stock listed, though a careful inquiry could hardly have failed to show that the ship-building

company was already making very heavy weather, indeed.

For instance, when the bookkeeping systems of the various companies were "unified," $500,000 of assets disappeared from the Union Iron Works's schedule at one stroke of the pen; the American public had taken only $400,000 worth of the bonds as a result of the prospectus; the French underwriters were still "in the air"; times were, if anything, getting worse for the industry, and there was a steady flow of money required for current expenses.

The "responsible financier," Mr. Dresser, decided he must go to Paris to help Mr. Young in cornering the elusive French underwriters. His own affairs and those of his trust company were in such a bad way, he assured Mr. Young, that his 1,450 shares in the latter were worth nothing, so the big-hearted promoter handed him over $1,000,000—in Shipbuilding stock. This he sold for $100,000, but his trip was otherwise successful only in convincing him that the French financial support was a myth.

Another shock awaited him upon his return to this country. He actually began to suspect, he declares, that something was wrong with "the soundness and integrity" of the ship-building scheme when he discovered that during his absence and without his knowledge there had been arranged a plan of reorganization (the "Sheldon reorganization scheme"), by which a syndicate of bankers were to supply the $4,000,000 of cash necessary to pay the loans made by the Trust Company of the Republic and market the Shipbuilding securities, underwriting $5,500,000 of bonds at 75, and a large quantity of stock, with the usual bonus—in this case, five shares of preferred and ten of common stock for each thousand-dollar bond.

Mr. Dresser "immediately and continually" thereafter remonstrated with his fellow officers of the trust company, but it was easier for him to protest than to answer their natural query as to how he was going to raise the $4,000,000 otherwise.

Mr. Nixon also remonstrated. He was promptly confronted with his own endorsements for the $4,000,000 borrowed. He urged that he didn't have the money, never had had it, and was only accommodating Mr. Dresser when he affixed his signature blindly, as he had done in so many cases.

"Pay up the notes or sign the plan" was the curt alternative of the reorganizers. Mr. Nixon signed.

Mr. Untermeyer charges that Mr. Schwab, not content even with the situation as it stood, deliberately planned to cause a default, and give his second-mortgage bonds the right of way by withholding the earnings of the Bethlehem works, and that the "reorganization" (which exchanged the first-mortgage bonds for stock, gave Mr. Schwab a prior lien on everything, and placed the trust for seven years under a committee headed by him) was the fruition of this scheme. There is a curious correspondence in evidence which seems to show that through Joseph H. Hoadley, who held a lot of Nixon's Shipbuilding bonds, Schwab offered to take $100,000 of these at 90, though they were selling for next to nothing, and also to assume the $40,000 already paid in by Nixon. Mr. Untermeyer says that was an attempt to bribe Nixon to give his consent.

Mr. Nixon found himself a laughable figurehead, outvoted on every important point by the Schwab directors (that gentleman's brother, his physician, his lawyer, and several of his Bethlehem employees!). He had the humiliation, despite the company's desperate straits, of having to pay the Bethlehem works distinctly higher prices for certain kinds of steel than these could be purchased for in the open market.

Finally, in the spring, "while riding downtown in an automobile" with Mr. Schwab, Mr. Nixon realized that corporate obligations, like personal ones, actually did come home to roost, and that the concern must have working capital or it could not meet the $362,000 July interest on its bonds. He was still "optimistic of the earnings of the shipyards," and though there was another $250,000 due on August 1st, not to speak of annual fixed charges of over $800,000, bills and accounts payable of $1,000,000 on April 30th—with an empty treasury in prospect—nevertheless he thought things would come out all right somehow if these immediate debts could be met. By way of helping the situation, the directors presently voted to apply $2,800,000 to needed betterments and improvements at Bethlehem! Mr. Nixon could only protest. For a month he tried in vain even to get together a quorum of directors. He found himself absolutely

powerless, and at last clearly saw the breakers ahead.

The last straw was when Mr. Nixon prepared bids on an eight-million-dollar contract for two battle-ships (a contract which would, for the time, have saved the company), but was not allowed to present them. In place of them, bids prepared by that expert shipbuilder, Max Pam, were submitted, with the result that the company proved to be the highest bidder and lost the work. Mr. Nixon at last could stand it no longer and resigned his position as president.

It is useless to prolong such a death scene as this. The company defaulted. A receiver was appointed. Some of the *bona fide* bondholders engaged Mr. Untermeyer and brought suit to make the receivership permanent, and between the testimony elicited at these investigations and the receiver's scathing report the public has had some illuminating glimpses into modern methods of trust-building.

The receiver recommends the sale outright of the Crescent and Harlan & Hollingsworth yards; the institution of suit against Bethlehem to procure a receiver there and compel the appropriation of its earnings as stock dividends; and the bringing of actions against all persons who received any Shipbuilding stock without paying full value therefor, these individuals being liable for the concern's debts under the New Jersey law of 1896.

This last suggestion is a sort of bombshell, for nobody paid for stock except the silly public, and such a proceeding would bring into court a notable army of defendants.

So here ends the first chapter of the United States Shipbuilding Company. What the second will be will doubtless be partly indicated by the time these pages are printed.

PERFECT FEEDING OF THE HUMAN BODY

THE ART OF EATING THE RIGHT FOOD IN THE RIGHT QUANTITY, AND THE HEALTH AND STRENGTH GAINED THEREBY—THE PERSONAL EXPERIENCE OF MR. HORACE FLETCHER

BY

ISAAC F. MARCOSSON

DO we eat too much? For years physicians have told us that we do, but most of us have kept on eating the same amount. We have not stopped to find out how much too much we eat. But one man—Mr. Horace Fletcher—has reduced the science of simple living and of perfect nutrition to a definite basis. For five years he has lived on one-third the quantity of food that a healthy workingman eats. He is sound in body; he can ride his bicycle a hundred miles a day; and he can take at any time the exercises prescribed for an athlete in training. He is now fifty-four years of age.

How does he accomplish this? Simply by eating what his appetite craves and no more, and by chewing his food thoroughly. Mr. Fletcher has been a successful importer and manufacturer at New York, San Francisco, New Orleans, and Chicago. His business required him to travel much. He now makes his home at Venice, Italy, but he spends much time every year in New York. He began his experiments with simple food because life insurance was refused to him on account of a stomach trouble. His means permitted him to devote all his time to experiments in scientific nutrition. How he found out what kind of food to eat and how much to eat is a lesson in right living that is useful to everybody. As a result of his work twenty privates from the hospital corps of the United States Army are living on simple diet at Yale University to find out the minimum amount of food required for men under ordinary conditions of life.

The important thing that Mr. Fletcher

has discovered—or at least emphasized in his own habit and in his writings—is that the appetite can be made a trustworthy guide as to both the kind and the quantity of food. If the taste be highly cultivated by proper use of the digestive juices of the mouth, the throat soon ceases to pass to the stomach improper food or too much food.

I have seen Mr. Fletcher eat, work, and play. We went to New Haven, Connecticut, together. I met him at seven o'clock in the morning at the Grand Central Station in New York. He had been up since five o'clock and had written more than 2,000 words on his typewriter. He looked fresh and ruddy.

"Have you had breakfast?" I asked.

"I have not eaten anything," he replied.

We went into the dining-room at the station. He ordered a cup of coffee and a pitcher of hot milk. He poured out half of the coffee and then filled the cup with milk. Instead of swallowing the coffee at once, he took a sip and kept it in his mouth about half a minute. Then he took another and did the same thing. While he took two sips I took eight swallows.

"I taste what I sip," said Mr. Fletcher, "and you do not. Try my way."

I did, and I found that I got more taste of the one mouthful of coffee than of all that I had drunk before. On the train Mr. Fletcher smoked a cigar.

"Do you smoke every day?" I asked.

"No," he replied. "But I smoke whenever I feel like it."

At New Haven we walked three miles, visiting various university buildings. He ran up three flights of stairs at the art gallery; he ran up the thirty-two winding steps at the gymnasium, and down again, without losing breath. To catch a street-car we ran a block and a half. Mr. Fletcher led the way, and he was able to resume conversation as soon as he sat down in the car. At lunch he ate a leaf of lettuce with oil dressing, two wheat-cakes, and a cup of custard. He chewed everything thoroughly. We returned to New York the same afternoon, and at seven o'clock went to dinner. Mr. Fletcher lives at a fashionable hotel when he is in New York, but he eats his meals at dairy-lunch restaurants.

"Why do you eat at these restaurants?" I asked him.

"Because I get the amount of food that I want. People are likely to eat too much food because more food than they can eat is placed before them."

At the table he asked: "What kind of food comes in your mind first?"

"Raw oysters," I said. He ordered oysters. "I will eat them with you, although I don't need a relish."

"But what are you going to eat?" I asked.

"Griddle-cakes," replied Mr. Fletcher. He chewed each oyster thoroughly. It required an average of thirty movements of the jaw. At the end he took a small pulp out of his mouth. "The juice is all out of this. The stomach does not need it," he said. He used five little cups of maple syrup on his cakes. "I like sweet things," he said. Every mouthful of griddle-cake was carefully chewed by thirty movements of the jaw. He drank coffee which was four-fifths milk. When he ate the cakes he drank no coffee, and when he chewed the oysters he took no bread.

"Do you ever mix foods?" I asked.

"No. If I did I would defeat the purpose of taste, which is to get all the pleasure possible out of a single article of food," he replied. He smoked another cigar and walked back to the hotel. At midnight Mr. Fletcher was active and strong and I was tired.

The next morning I saw him at half-past nine o'clock. He had been up since five and was using his typewriter. We walked and talked during the morning. During that time Mr. Fletcher ate three pieces of candy. It was honey of wheat encased in chocolate. Candy is frequently his substitute for breakfast. He chewed it slowly. At half-past twelve o'clock he said: "I have an appetite."

"But are you hungry?" I asked.

"I never get hungry as people who eat more food get hungry. Appetite with me is a desire for some simple food."

This time we did not go to the dairy lunch. We went to one of the principal hotels. I was curious to see the effect of this environment and a tempting bill of fare. But the same thing that had happened at the dairy lunch happened here.

"What are you going to eat?" I asked. Waiters were passing with trays of steaming soups, appetizing meats, and rich pastry.

"Hashed brown potatoes," said Mr.

Fletcher. "I can't think of anything in the world that I should prefer." He put a spoonful in his mouth and chewed it carefully. His face beamed. Again he drank milk with a dash of coffee. He ate half a French roll. For dessert he poured the cream that was left over half a French roll and broke a piece of lump sugar into it.

That afternoon he walked two miles. At half-past eight o'clock at night he ate a small portion of corned-beef hash which was four-fifths potatoes, and sipped a glass of milk. He had eaten one-third the amount of food that I had eaten during the day, and at midnight he was fresh and I was tired. At half-past twelve he was sleepy, and when he went to bed he fell asleep at once. His food that day had cost sixty cents, and he had eaten one meal at the Waldorf-Astoria Hotel. Eaten at the dairy-lunch restaurant it would all have cost only thirty cents.

Ten years ago, when Mr. Fletcher was rejected by a life insurance company for a stomach trouble, he was surprised and alarmed. "What does this mean?" he asked. He had looked forward to a serene and healthy old age. It was an uncertain prospect now. He began to read books on diet and hygiene. "If you feed an engine with too much food it gets clogged," he reasoned. "The same must be true of the body." And he set to work to find out how to reduce this amount. He had read that Mr. Gladstone had said that every morsel of food should be chewed at least thirty-two times. It gave Mr. Fletcher an idea. "I will begin to chew," he said. He started with a bite of French roll. He found that he could chew it sixty times before the impulse to swallow. The longer he chewed the sweeter and creamier it became. Bread had never before tasted as this tasted. He then tried different kinds of food. What was true of bread was true of beans, potatoes, griddle-cakes, and vegetables generally. He tried soups and coffee and milk. The longer he kept them in his mouth the better they tasted. The more he chewed the less he ate, but the enjoyment of what he ate was keener than when he was eating large dinners. He began these tests in June, 1898. By the middle of July he had no desire for breakfast. Breakfast ceased to be a habit. He began to ask himself: "What do I *want* to eat?" Then he ate that thing, no matter whether it was beans, cakes, potatoes, or cereals. He found that as he allowed the appetite to prescribe food the demand was for simple things. And he chewed well every morsel he ate.

"Was not this careful chewing very tiresome?" I asked.

"No," he replied. "The pleasure I got out of every bite of food made me forget the mechanical work of eating it properly."

When Mr. Fletcher began to eat two meals a day and to eat only what his appetite called for he weighed 205 pounds and measured 44 inches around the waist. On October 10th, after three months of simple living, he weighed 165 pounds and measured 37 inches around the waist. He had lost nearly half a pound a day, yet the loss was not attended by any physical weakness. He felt in better condition than for many years, and his stomach trouble was disappearing. During these three months he had on some days eaten not more than one-fourth the amount of food that other people eat. He proved that his body was getting the amount of nutrition that it needed and no more.

The results of the first three months were these: Mr. Fletcher's appetite involuntarily discriminated against unpalatable foods, like meats. It was not a question of how much food, but *what* kind of food he wanted and how much he enjoyed it.

After six months of economic living the waste matter of Mr. Fletcher's digestion was reduced to one-tenth the usual amount, and it ceased to be offensive. The thoroughly chewed food relieved the stomach of the extra work that unchewed food imposes. Food not chewed and therefore indigestible reaches the stomach in lumps. Then the stomach is required to work this food to pass it into the intestines. When the quantity of food is large and not chewed the lumps pass into the intestines. Fermentation and decay set in. In the case of Mr. Fletcher the food was so thoroughly chewed, and therefore so digestible from the chemical action of the juices of the mouth, that when it reached the stomach it was ready to perform its various functions in renewing the body. The waste analyzed and compared with the original amount of food before eating showed that the carbon, the fat, and the albumen had all been used for the benefit of the body.

Another test of Mr. Fletcher's endurance and strength was made at Yale. On February 4, 5, 6, 7, and 8, 1903, under the direction of

Dr. William G. Anderson, he took every day the same exercises that were taken at that time by the members of the university boat crew in training. Before going to Yale Mr. Fletcher had been in Europe and had taken no exercise during the winter. He had lived on two meals a day—the meals consisting chiefly of macaroni, beans, potatoes, and milk. At the end of the first day's work he showed no sign of fatigue, and the next day he was not sore. A man aged twenty years given the same exercises without training was so sore the next day that he could take no exercise. During the five days of these exercises Mr. Fletcher ate twelve ounces of food each day. It consisted of maple sugar, cereal, and hot milk. The men training for the university crew, who were taking the same exercises, were eating three large meals a day. Mr. Fletcher's waste matter analyzed at Yale showed that the body was being thoroughly nourished, and the work he accomplished showed it. He lost no bodily weight. He slept five hours every night.

In December, 1902, Mr. Fletcher climbed the 854 steps of the Washington Monument in Washington, and then ran down without resting. In Arlington, Massachusetts, last November, he skated for three hours. He had not skated for thirty-five years. He felt no soreness after it. In 1900, in France and Germany, he rode 750 miles on a bicycle in ten days. His daily diet on this ride was rolls, milk, cream, potatoes, and beans.

Mr. Fletcher's experiments with food have proved these things for him:

1. He can live on one-third the amount of food usually eaten and be healthy and vigorous.
2. Only five hours' sleep are necessary.
3. When food is thoroughly chewed the waste of digestion is reduced nine-tenths.
4. The appetite indicates the needs of the body and wants simple food.
5. Since an important part of digestion is done in the mouth, thorough chewing is necessary.

THE PUBLIC SCHOOLS OF A BOSS-RIDDEN CITY

PHILADELPHIA'S SCHOOLS IN POLITICAL THRALDOM—CONTROL IN THE HANDS OF FIVE HUNDRED AND FIFTY-THREE PEOPLE — BLACKMAILING TEACHERS ON MEAGRE SALARIES—JANITORS WHO CONTROL WARDS — TEACHERS OBLIGED TO PAY FOR SUPPLIES — EFFORTS AT REFORM

BY

ADELE MARIE SHAW

(The third of a series of first-hand studies of American schools)

"*From the political thraldom of Philadelphia I look upon New York as pedagogical paradise.*"—Extract from the letter of a Philadelphia teacher.

THE letter from which this extract was taken was written to a New York teacher. I do not know the name of the writer, but she must be unusually independent; for there is a Siberia, both cold and hungry, for subordinates who criticize the management of the Philadelphia public schools.

It is a unique management; and it is incomparably bad.

The schools are as good as they are, despite a corrupt method, because the very conservatism that makes entrenched rascality difficult to dislodge has preserved to the city standards of living above the average The population is not so foreign, so shifting, so new as in New York City. Tenement-houses have to be hunted for; there is space for growth without falling off a water-front. Where immigrants dwell three families to one roof, even there they realize something of that decent separateness which

is distinctly Philadelphian. The $16 a month that often barely pays for one room and a dark closet in a New York tenement here secures to the workman an entire house. Even the "alley" and the "area gate" divide back yards by an appreciable distance between two high fences, so that the family on either side lives in nobody else's "face and eyes."

This has acted like a life-preserver to the city schools. The population is of a better class than one expects to find in a large city; consequently the teachers drawn from the population are of a higher grade. Outside the foreign quarter nearly every citizen is a house-holder, owning or renting a dwelling in the neighborhood where his grandfathers owned or rented theirs. Thus, as the teachers are usually chosen from the ward to which they are appointed, there is a certain safeguarding of the teaching force.

To the Philadelphia teachers is due practically all the credit for what the Philadelphia schools have kept and gained.

HOW THE MACHINE IS BUILT

In Philadelphia the elementary-school teacher acknowledges three distinct authorities, two of them despotic. She owes allegiance to the local board that appoints her, to the Central Board that confirms the appointment, and to the superintendent and his staff, who supervise the course of study and are supposed to regulate the standard of teaching.

There are forty-two local boards, each containing twelve members elected by popular vote. There is a Central Board with a member for each of the forty-two wards. The member of the Central Board is supposed to meet with the local board of his ward. He is appointed by the fifteen judges of the Court of Common Pleas. The superintendent, elected by the Central Board, has six assistant superintendents. Thus the control of the city schools is in the hands of 553 people.

In this multitude of counselors and dictators there is a constant quarrel between the local boards and the Central Board, an ignorant and suspicious disregard of the superintendent on the part of the local bosses. The salvation of the teacher is in choosing the most powerful master and in appearing, as far as possible, to serve all three. The "most powerful" master of the public schools—educationally the weakest—is the local board.

THE PLAGUE-SPOT OF THE SYSTEM

The Philadelphia public-school system is a relic. The first school superintendent was appointed in 1883. Before that the wards, lineal descendants of the separate villages that made the city up to 1853, had been under no common head. The local board of a ward is the old village school board clinging to an authority whose excuse has vanished. The members ("directors") are now elected for no reason connected with education. The local board is the training-school of politicians.

The make-up of these sectional boards is as various as the wards themselves. Recently one had among its directors an alleged "speak-easy" keeper, an alleged race-track runner and gambler, a cigar dealer, a bricklayer, and three liquor sellers, while in another ward there were as managers five lawyers and two physicians, one of whom was a woman. Yet injustice to the schools might result even in the better board from political complications.

The appointing power for the elementary schools gives to the local board its best-known opportunity for injury to the schools and service to the machine.

INSTANCES OF CORRUPTION

Three former directors of the Twenty-eighth Ward board and the man who acted as their go-between are now serving a prison sentence for extorting money from teachers in exchange for appointments. In the testimony at their trial it was shown that one teacher to secure her position had for three months paid $40 out of $47 salary; that a school "director" had advised another teacher to pay $160, and when she decided that she would like to be transferred to another school had told her that "$175 would fix the appointment and transfer."

The Philadelphia *Press* of May 2, 1902, said:

> "Evidences of a combination of school directors to exact tribute from teachers multiply as the investigation into the Twenty-eighth school board scandal is carried on. Director F. H. McIntire said last night that the practice of extortion had been carried on for a year past, and that in that period there had been many cases where money was exacted in payment for appointments without

regard to the applicants' qualifications for the position.

"A regular scale of prices seems to have been enforced. In addition to the sale of appointments, teachers are said to have paid for being transferred from one school to another, and teachers' ratings have been raised so that there would be no necessity for calling them before the whole board to explain why the proportion of promotions in classes under their care had not been up to requirements.

"The cost of appointments is said to have been $100 to $160, while transfers could be had for $15 and ratings were raised for $10. All the money collected in this way is alleged to have gone into the hands of five men, four of whom were members of the board. . . .

"The practice of buying appointments is said to prevail in other wards. A member of the Board of Education declared yesterday that he had heard of a case where a supervising principal had paid $1,300 for his place. He had investigated, but was unable to obtain proof."

The practice of paying for positions is not new. One teacher told me that twenty-five years ago it was suggested to him that $300 paid to a certain local director would secure the place he wanted. The bearer of the message, however, went with the teacher before a magistrate and made a sworn statement of the director's proposition. Armed with this, the teacher secured his position without the payment of a cent.

One woman director was visited shortly after her election by a newly appointed teacher who offered her $50.

"It is all I could raise," pleaded the teacher, misinterpreting the other's expression. "We've had sickness in the family. This is the very best we can do."

"Why," asked the member, "do you bring me money?"

"You worked for my appointment. I was told it was customary to pay some one," was the bewildered answer.

Even when she went away, still in possession of her fifty-dollar tribute, the teacher could hardly believe she was to retain her money.

THE WARD BOSS

There are many wards in Philadelphia where it might be impossible to find a single school director who would demand or accept money for appointments. But even the best local boards are not "out of politics."

For party purposes each ward is split into sections, each section in charge of a division boss, whose business it is to turn in votes. In one ward, a few years ago, twenty-one Republican bosses drew among them about $50,000 a year in salaries for city offices. The man who controls these division bosses controls the school board of the ward. *The ward boss manages the schools.* The sectional school board is the beginning of the political game. Given two candidates for appointment, one notoriously unfit, another known to be good, and the poor teacher will win if she can muster the larger number of voters, or if she can command the influence of a councilman, senator, judge, magistrate, or party leader to whom the majority of the directors are pledged.

A teacher was an applicant for a position. She was efficient—what New Englanders call "capable"—and she had complied with every requirement of preparation and examination. By advice she called on the ward boss. The boss was gracious. "So pretty a girl as you ought to have no trouble getting a job," he assured her. "You're all right, Miss Blank. I'll stand by you."

The most powerful member of the local board was a family friend. The promise of the boss delighted him. "Just as a matter of form, you'd better call on the other directors," he counseled her, "*though it's settled now.*"

But it was not settled. At the very hour of the meeting that was to give her the appointment an order was received from "higher up." The "boss" tossed his promise aside as he might have tossed a scrap into the gutter. He passed on the word to the directors, and even the family friend voted for her rival.

In one school I heard a janitor summon the principal with a peremptory "Come here!" If there had been no visitor present, I was told, it was quite likely he would have called her by her first name. If any teacher in the building had resented either his peremptoriness or his familiarity he might have announced to his henchmen on the "board" that "Mary" was unfitted for promotion, and Mary's promotion would have lingered till she had made obeisance to authority.

In another school, where the janitor was autocrat, he took occasion to inquire of a teacher serving a temporary probation as substitute what she could do for the "organization" "in the way of votes." She

answered him with an indignant "Nothing. What sort of a teacher do you suppose I am?" "You ain't the kind we want here," he replied with spirit, and within a few hours she was dismissed and a candidate more valuable to the boss was in her place.

FEAR AND SILENCE

Silence rests upon the schools of Philadelphia. "That director is long since dead" interpolates the teller of a story. Naturally under a rule like this tales about "graft" often concern some one (nameless) who "died long ago." No one knows what may be repeated, what the workman may overhear, what a friend may innocently misquote.

Even if the teacher, persuaded by personal knowledge of another's discretion, gives to the visitor a glimpse of the reality, the listener must first be pledged to an equal silence. The lot of the teller is hard enough already. To betray her confidence would be to deprive her of her position.

"It is only a question of the first opportunity when the teachers who gave evidence in the Twenty-eighth Ward will be dropped," is the testimony of men who speak with conviction. "The managers do not want teachers who act for themselves. A teacher is not an individual, but an insignificant part of a political 'organization.' It is her business not to think, but to mind."

"I do not believe the city will sit supine and see those teachers dropped," declares the outsider. "There is no question about it," answer the men who know.

POLITICS IN THE CENTRAL BOARD

High schools and special schools are governed by the Central Board. Here, too, the politician reigns. Four "special" schools for truant and for backward children, founded and at first maintained by private enterprise (now under the control of this Central Board), show clearly the political jobbery to which children are sacrificed. Teachers, sometimes good but often bad, are appointed by the same methods as in the local boards

Several years ago, before these "special" schools had been adopted by the city, a manager of one of these schools consulted a ward leader about securing for his school a public-school teacher. The ward leader was a workman engaged all day in a grimy occupation, and he did not dignify his labor. Roughly putting aside his visitor's request, he made haste with his ultimatum: "You take Miss A——," he ordered. "She's the one you want."

The director of the ungraded school explained patiently that she did not want Miss A—— and would not take Miss A——.

The dictator grew apoplectic with amazement. "Take her! Of course you'll take her," he blustered. "You'll take the one I say. I'll see P—— [a member of the Central Board] and Q—— and R——. I guess we'll find out then—you'll be *made* to take her."

It required repeated explanation before he could comprehend that his dictatorship did not extend to this particular private enterprise, that the director who had appealed to him had nothing to fear from his threats. He could not believe that any one had approached him on the ground of unselfish devotion to the public good.

The Central Board are better educated, more polished, in many cases more disinterested than this man, but when they put in charge of children needing particular wisdom, tact, and sympathy women whom they know to be unfitted for the task, they sin against greater lights than the swaggerer and bully from the downtown ward or the abusive Myers, who, to quote his own words, said "*damn* to her just as I would say it here or at home to anybody else."

Judging by the listed occupations of men on the Central Board, as well as on the sectional boards, city offices go as frequent rewards to faithful workers—not for the schools, but for the machine. In many cases the man who works hardest for the "organization" does most to destroy the integrity of the schools and is surest of reward. He is a bigger kind of "division boss."

Compromise seems to have dictated the demand for the resignation of Mr. Humphries, of the Girls' High School. The flimsy reason announced is this: "Mr. Humphries is a man; a girls' school must have women teachers." That a retiring principal in the same school has been succeeded by another man does not matter; that Mr. Humphries himself is not only a scholar, but an influence for good, does not matter; the protest of parents and pupils does not matter. Here is a teacher who through years of good service has strengthened the school within and increased its reputation

without, but because of some complication in no way his fault, because of "expediency," he must "go."

SCHOOL-HOUSES AND SUPPLIES

Some of the newer buildings and here and there an old one are what school buildings should be. For the rest, conditions are so poor that the work of principals and teachers is practically doubled. A mean frugality appears in every department.

It is not necessary that schoolchildren should have luxurious, nor even beautifully decorated surroundings, but air, light, cleanliness, and warmth, are essential. Air they do not have because most teachers retain ineffective ideas about ventilation. Light is more abundant. The sanitary arrangements are often bad, and in many cases dangerous and offensive. Most of the children drink the unwholesome city water that no careful citizen will touch until it is boiled.

Without repairs it is impossible to make the walls and woodwork of an old building look clean. The school-houses of Philadelphia are impressively old and out of repair. In some even the furnaces are not in working order. I saw one school where plaster had fallen from the ceiling in the principal's room; the bareness resulting was desolate. In one case, over the heads of primary children, plaster sagged, hanging apart in great cracks—the teacher constantly on the alert to warn them if it fell. When a school reaches this stage the Central Board asks for appropriations.

Every request must be itemized. Every politician on the board thinks first of his own ward. The requests do not always represent the greatest needs. Since appropriations are nearly always "shaved," each item is likely to be expanded to meet the expected reduction. Every councilman knows this and "shaves" with due allowance for the expansion.

For girls in the first and second years of the primary schools a principal has an allowance of forty cents, for the boys forty-five cents—annually, to replace all worn-out books and to buy all stationery and material. She is forbidden to ask the children to bring so much as a sheet of wrapping-paper, scraps of bakers' bags, or the cover of a dry-goods bundle on which to scribble. Yet these things would be far better than the slates that are in almost universal use. Children do not object to slates. They love to smear their fingers over the smooth surface and restore them to their mouths for a fresh supply of saliva. They like the squeak of the slate-pencil.

Most of the principals do not sympathize with this fondness for the slate. They make constant war on the finger smears, and are not unduly pleased with the rows of grimy wash-rags and sponges needful for erasers The individual water-bottle is tabooed. On the teacher's desk sits a big flask with a patent stopper. From this she shakes a splash upon each slate and the delighted babies "scrub it around."

That the city does not furnish its schools with pianos for the singing and marching seems a small thing compared with greater omissions. Principals and grade teachers spend from their own meagre salaries to supply their classes with necessaries. In one school every teacher contributes a stated sum each month for school material. The plan was instituted by the principal, so that in the end each might spend less and the already careful economy of supplies be made more rigid by a system of exchange. The plan seems to work like the wages of the Swede: "He pay me dollar quarter day and I eat myself."

The principal may not use the telephone in his office even on the most urgent school business without depositing his own dime.

The Philadelphia *Ledger*, in December, 1903, said:

> "The city makes no provision for postage stamps . . . for nature objects, for drawing. . . . In recent years, rather than see pupils deprived of text-books and other school supplies, schoolteachers have furnished such supplies out of their own means where the appropriation was inadequate. Taking the last five years, the school population has expanded from about 140,000 to 162,000, while the annual appropriation for stationery, text-books, and general supplies for the schools has decreased from $170,000 to $140,000. . . ."

The architect of the board estimates that to put the school buildings, furniture, and heating plants in perfect repair would cost $400,000. Taking out the sums set aside for plumbing, draining, and covering steam-pipes, there is available for this purpose $48,000—a small sum to do the work.

It is poor municipal housekeeping that lets school buildings fall into such disrepair. If the business men on boards of education conducted their own affairs as they often conduct those of the schools their reputation for business sense would be gone.

UNDULY CROWDED CLASSES

No excuse seems sufficient to account for the number of double classes in Philadelphia in the fall of 1903. Rooms intended for fifty crowded with seventy or a hundred, in charge of two teachers, who can do little more than invent "busy work" and prevent complete idleness, are a sorry spectacle in a city of generous spaces and comfortable homes.

The class register of many lower-grade schools is indefensibly large. Fifty-seven is common; seventy-one, seventy-seven, even more, possible at crowded seasons.

"Don't wish them smaller!" exclaimed the teachers of the large classes. "If we get below forty children each, one of us has to be dropped!" So in many schools applicants are received when they should be sent elsewhere, and children, so it is said, have in certain cases been "held back" to bring the record as high as possible and so offset the cranberry season, when whole families from the immigrant quarter migrate to the Jersey marshes and the register drops dangerously near the "dead-line" of "forty each."

This overcrowding and the unattractiveness of many of the public schools have reënforced the pressure upon Roman Catholic parents, who are instructed to send their children to parochial schools. In the diocese of Philadelphia the attendance at parochial schools has nearly doubled in the past twenty years.

If it can be proved that sectarian schools —Roman Catholic, Methodist, Episcopal, or Dutch Reformed—are any more effective in establishing character than even the poorest of our public schools, then this parochial-school enrolment is not a loss to the citizenship of the country. So far this effectiveness has not been proved, and I know of many institutions that train Episcopalians and Baptists and Roman Catholics and Methodists controlled by earnest men and women, and dedicated to the service of religion, whose graduates as a whole are weaker in moral and religious fiber, feebler in reasoning power and self-control, than the graduates of our public schools.

Whether it is negligence or "economy" that has produced the present public-school conditions in Philadelphia, they are equally unfortunate. "For their learning be liberal," said William Penn, writing to his wife about his children. "Spare no cost; for by such parsimony all is lost that is saved."

THE TEACHER AND THE CHILDREN

The majority of public-school children in Philadelphia schools, counting the chances of illness or of non-promotion, get only four full years of "schooling." (Leaflet of the Public Education Society.) The period of compulsory attendance is five years—eight to thirteen. There should be no schoolroom where the teacher must buy necessary reading books or go without, or where the teachers, men and women alike, stand in danger of an ignorant or vicious control.

In a comparative statement of the maximum salaries paid to women grade teachers in forty-three cities of the Union, Philadelphia, third in size, is forty-third on the list. Counting in the men's salaries, it is thirty-fourth. The city that had the first high-school outside New England, that established the first training-school for teachers, has been practically last in the relative adjustment of women's salaries. The kindergarten teacher gets from $350 to $400; the kindergarten principal, $425 to $475. The woman who spends hours cutting cardboard and pasting models that the board could buy for six cents is needlessly afflicted, but the hours she spends sewing to keep herself presentable or planning to maintain a standard of living that shall not look "poor" are a wilful wrong, not only to her, but to the children.

The worst harm of the Philadelphia system, however, lies in the subjection of the men and women of the teaching force—in the "object-lesson before every growing boy and girl that pull is stronger than merit."

EFFORTS AT REFORM

It is easy to say that efforts at reform have failed. There is a continued effort at reform in Philadelphia, and it has not wholly failed. The solid worth of much of the work under the direction of the Central Board shows the presence of principals and of a teaching force with other qualifications than "influence." The "fighting strength" of the city—

the lawyers, judges, scholars, financiers of many places—have come from the Boys' Central High School. Men like Frank Stockton, Henry George, William Sartain, President Drown, of Lehigh, the Bishop of Cleveland, Cramp the ship-builder, Clement Griscom, and P. Frederick Rothermel, the Philadelphia district attorney who was too honest for the machine, are its graduates. The alumni rally to support it, and they are strong, for its history dates from 1836.

The Normal College and the School of Observation, splendidly housed, with principals and a teaching force superior to any I have yet seen in similar institutions, gives to a pupil an uncommon preparation, though after she is prepared a girl may be "turned down" for the dolt of the class. The four manual-training schools have a reputation. The "Industrial Art," under the supervision of Mr. Liberty Tadd, has for a long time roused the interest of educators here and abroad. The Commercial High School for Girls is so well governed, so extraordinarily successful, that it is the object of pilgrimage from other cities. One such woman as its principal, Miss Emily Graham, at the head of a big institution is enough to put Philadelphia somewhere in the line for progress. Here, as in a great number of Philadelphia schools, the personal influence is life-giving, germinating, and beneficent.

Old-fashioned as they are, even the elementary schools have gained under supervision. The superintendent's power may be insulted and curtailed by the local boards, but its existence is a good thing. In the superintendent's office teachers may at least find the sort of atmosphere that should surround the schools.

The "school city"—the civic organization of the children—exists in thirty Philadelphia schools. The board has authorized its founder to introduce it wherever principals are willing. In the Hollingsworth school it has proved through a five-years' demonstration that "self-government" is a possible part of education. Its board of charities, organized by the principal, is one of the most sensibly helpful little bodies that ever learned the way of kindness from traveling in it.

Outside the schools there is a constant demand for better conditions, better housing, better equipment, better teaching. Bad as the buildings are, I doubt if one can find now a Philadelphia schoolhouse where on rainy days little boys with dampened hair carry out buckets of water and, returning, set the emptied pails to catch the drippings of the ceiling. Yet such a school existed in 1898.

A growing agitation for sectional high-schools is having an effect. Though, so far, board and councils have refused medical and nurse inspection, its advocates are not discouraged. Some day Dr. Martin will take the right man to see the solitary experiment yet allowed, and will show him the vermin-eaten, diseased children I saw in downtown schools and the garbage they and their families throw into filthy streets. Then something will be done. Already the compulsory education law is supported by the action of the courts far better than in New York. On one day recently a man was sent to prison and six men were fined for disobeying this law.

The only salvation of the public schools is in the hands of Philadelphians themselves. If first of all they can put aside the old village prejudice and the tenacity of association that prefers to see in office a bad neighbor rather than a good man from a remoter street, there will be hope. But reform is slow.

In the present state of the schools of Philadelphia four things seem most conspicuously true:

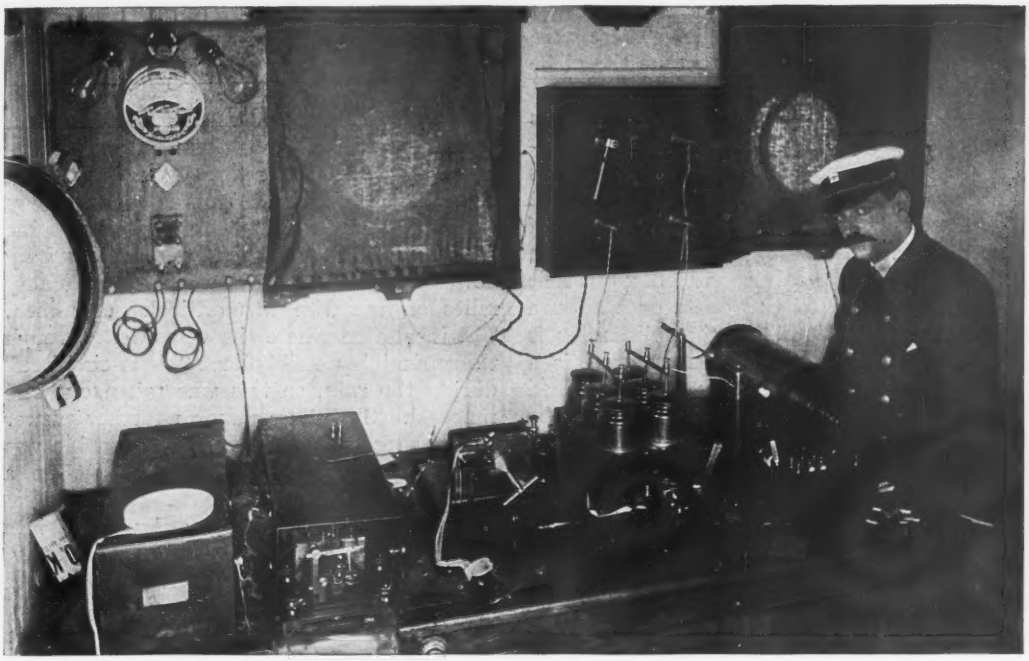
1. The Philadelphia public schools are ruled by the politician for the politician; the children are his last consideration.

2. The schools of Philadelphia are better than one would think that the system could produce, because the standard of living is better than in other large cities and the teachers reflect the life of the community.

3. No body of people in the control of their moral inferiors can permanently maintain their own dignity and honor; the enforced passivity of a subjected class has produced in the schools a moral dry rot. Children infected by the taint of an enslaved school system will not make American freemen.

4. Philadelphia teachers are beginning to see that their yoke need not be perpetual. There is a dawning hope that popular government in the United States will be vindicated where the Declaration of Independence was first read.

THE "MARCONI MAN" AND HIS INSTRUMENTS



THE WORK OF A WIRELESS TELEGRAPH MAN

JUST HOW MESSAGES ARE SENT AND RECEIVED AT SEA—THE FAINT CALL OF A STEAMER ONE HUNDRED AND FIFTY MILES AWAY—HOW WIND AND WEATHER AFFECT TRANSMISSION

BY

WINTHROP PACKARD

A YEAR or more ago the first Marconi operator on a transatlantic liner began his work. Now hardly a week goes by that we do not learn of a new ship equipped for wireless telegraphing, and the Marconi man has become a recognized feature of ocean travel. I have traveled with these men, and I shall describe a night spent with one aboard the *St. Paul.*

A wet wind blew in from the southwest all the evening, and the ship swung along through easy seas at a twenty-knot gait, well in midocean. Below, on the promenade decks, the passengers heard now and then a sibilant crackling that seemed to come from somewhere in the air above the ship—a peculiar sound, almost too high-pitched for some ears. Aloft, on the fiddley deck, the wooden house, ten feet square, whence the crackling noise issued glowed with electric light. Here we sat, the operator in his shirt-sleeves at the big key, now and then rapping out a call that, within the narrow confines of the little cabin, sounded like sputtering pistol-shots, showing blue-white lightning flashes as the current leaped from the "sparker" at each bend of the wrist, and causing blue flames to play about the six leyden jars.

For minutes at a time the call shot forth; then the operator would shift connections to the receiver and listen for as many minutes, carefully adjusting and readjusting the

delicate instruments meanwhile. There were two of these receivers, one to take the place of the other if a fault should show while a message was coming in. They were blocks of delicate and complicated machinery, carefully cased in wooden boxes, their supports carefully padded to steady them against the least vibration. There was a strip of paper to record messages, like the tape on the old Morse telegraph instruments; but that is not necessary to the operator who can "read by sound." This accomplishment is no mean one, however, for the sound is a very delicate ticking hardly to be noticed by the inexpert, and very different from the pistol-shots of the sender. The wires from the machines passed through the roof of the office to the top of the aftermast directly above, and were held apart by a long wooden "spreader," which made them look so much like stays that the uninitiated would hardly distinguish them from a part of the ship's rigging.

Word came down from the bridge early in the evening that we should probably pass the *Philadelphia* some time between midnight and dawn. This meant all-night work for the Marconi man, who takes care to be at his instrument an hour or two before a ship is expected to come within his reach. The amount of electric power aboard an ordinary liner is sufficient to send wireless messages 150 miles under favorable circumstances. Knowing the sailing-days and speeds of the ships that they are likely to meet or overtake, the navigating officers of a liner can calculate roughly when they are likely to come within the required radius of another floating telegraph office. Thus the operator was "feeling about" this evening in the upper air.

Toward midnight the first answer came to the receiver from the unknown deep—faint, disconnected taps. The operator called and listened, but the faint tapping, though it grew louder, did not become coherent, nor could he read it on the tape. We got the letters P. H., which surely meant the *Philadelphia*, and our own call; then everything suddenly ceased. The ship was within reach, we knew, but there was no further answer to our constant query of P. H., P. H., P. H. Connections were broken in some way and it was for us to find out how.

The hunt that ensued for the cause would have put a Scotland Yard detective to the blush. One receiver was tried, adjusted, and readjusted, then the other was switched in and tested in the same way, but with no result. We went over every connection, breaking and remaking them all and taking especial care that the wires were bright and firmly attached, assuring ourselves that they were perfectly right. The "sparker" was examined, the leyden jars were replaced by new ones, and the great coil with its ninety miles of fine wire was critically examined. The insulation where the wires went through the roof might possibly have "short-circuited" during the rain, so this was taken out and renewed. Still there came no further answer to the raps of the sender. The trouble was surely outside the house. It might be a break in the wires aloft.

We went outside and gazed upward into the darkness, but the wires seemed to be intact. For an instant the full light of the moon flooded through the scurrying clouds and let us see where the trouble lay. From a nearby cleat the operator cast off the slender lines of the signal halyards, which had blown against the wires and thus grounded the line, and made them fast and taut some feet farther away; then he plunged into the house again.

The instrument was ticking cheerfully with a call from the *Philadelphia* and the tape was registering it accurately. We answered the call, and in another moment "talk" began to pass between the two ships—matters of interest to one ship or the other, messages between passengers, and finally the news of the day from either side. Two hours later the reading by sound became difficult, the tape began to miss, and the last faint good-bys were said.

Sometimes a vessel has been in almost daily communication with others all the way across. Such was a recent experience of the *Ivernia*. After leaving Liverpool, communication was kept up with the Marconi station at Waterloo until the Rosslare station called the ship. On the following day—Wednesday—when the liner was thirty miles off Queenstown, the Admiralty's station at Roche's Point informed her that the weather was too rough to send the tender outside, which necessitated entering the harbor. On leaving Queenstown bay, communication with an incoming steamer was established and kept up for some time. At

noon messages were exchanged with the Brow Haven station, eighty-five miles east, and rough weather and fog were reported ahead.

About ninety miles off Brow Head it was learned that a second-cabin passenger had lost her ticket. Queenstown was called, and it was learned from the office that the woman had bought a ticket, as she said. The difficulty was satisfactorily adjusted. The same day a homeward-bound steamer from New York was spoken, and many messages were exchanged between passengers. The next day another English ship sent word through the air, and on Sunday a German liner was heard from, the vessels communicating for some time over a distance of 100 miles. Immediately afterward a Frenchman was heard talking with the German. Monday was another busy day for the Marconi operator, for messages were exchanged with the *Umbria*, the *Minneapolis*, the *Kroonland*, and a Hamburg boat. The Marconi man on this trip earned his salary as well as the commendation of the ship's company.

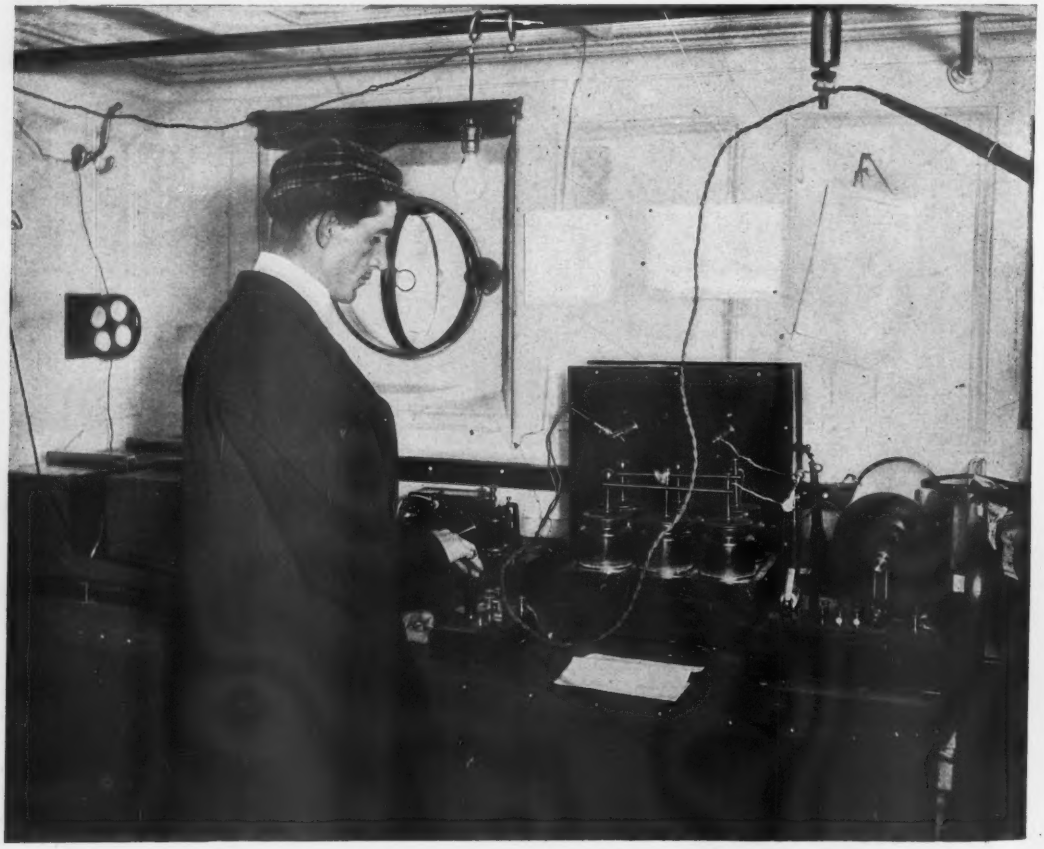
To borrow money from a ship 100 miles away would have been an impossible feat a year or so ago, but recently it was accomplished by telegraph. A young man found himself aboard ship, homeward bound, his passage paid, but without money for incidental expenses and for landing. He knew that his mother was on an east bound ship. The probable date and hour of the meeting of the two vessels were calculated. The purser of the east-bound ship was instructed to lay the unfortunate's case before his mother. It took but a few minutes for her to place money in the hands of her purser, who instructed the purser of the west-bound liner to pay it to his passenger.

PRINTING THE DAILY NEWSPAPER ON BOARD SHIP. NEWS SUPPLIED BY THE WIRELESS TELEGRAPH

The charge for transmitting messages from ship to ship at sea is sixpence a word, with the address and signature free. From ship

to shore the rate on the American side is $2 for ten words and twelve cents for each additional word, with no charge for address and signature, the regular tolls for transmission from the office on land to the final destination also being collected on shipboard, of course. On the English side the charge for a marconigram from a liner is six shillings for twelve words and sixpence for each additional word, the signature and address being charged for in this case.

The Marconi man's status on shipboard is that of a ship's officer. His duties are confined entirely to the management and handling of his instruments in the little office on the fiddley deck. At meals he may mess with the junior officers or sit with the saloon passengers. If, therefore, his work is arduous, he has at least pleasant surroundings. There is one post, however, which is much less comfortable than the service on a swift liner. That is the Nantucket South Shoals lightship, where two men are stationed the year round. In the ground swell of the shoals the vessel rolls and pitches unceasingly. From November until May the service is continuous, the operators not being relieved during that time; in the summer season they alternate between the ship and the shore station at Siasconset, one month ashore and two at sea. The lightship is farther from land than any in the world—fifty-two miles—and is visited only once a month by the lighthouse tender. In winter the weather is often so stormy that the tender is unable to reach the ship till weeks after the appointed time. The passing of each ship is chronicled by the Marconi men to the waiting wires ashore, messages and news pass constantly back and forth, and so excellent is the service that during a whole year there was but one interruption.



THE OPERATOR SENDING A WIRELESS MESSAGE. THE "CLICK" OF THE ORDINARY TELEGRAPH IS HERE A DEAFENING CRASH

A GROUP OF GHETTO CHILDREN AT VILNA

THE EMIGRANT JEWS AT HOME

AN EXPLANATION OF THE CONDITION AND OF THE CHARACTER AND EXPERIENCE OF THE DWELLERS IN THE RUSSIAN PALE BEFORE THEY COME TO THE UNITED STATES

BY

EZRA S. BRUDNO

The first of two articles by a distinguished Jewish immigrant. The second article will describe the life of the Russian Jews during the first years after their arrival in the United States

A GREAT injustice has been done to the immigrant Russian Jews in this country—the same injustice that was done to the Irish half a century ago. I mean the injustice of judging a nation or sect by a few of its members. A group of men is seldom a fair specimen of a whole people. The group may be, like delegates, the chosen few; they may be, like the chaff blown by the first wind, an outcast crew. If you would form a correct opinion of a people you must go to that people's land. There, and there only, you may study their character, their mode of living, their manners, and all the other characteristics by which they are especially distinguished. Particularly is this the case with the Jews coming here from the Czar's domain. For while the foreign gentiles are merely immigrants, most of the Jews are refugees, fugitives from a land of bondage.

The immigrant Russian Jews are of two classes—those in search of bread and butter and those seeking to throw off the yoke of Russian tyranny. The latter class is the smaller. It includes political exiles and those that are threatened with exile. But the primary cause of emigration is the same regarding both classes—the sin of being of the same race as the Christian Saviour.

I shall try to describe the life of the Jews in the pale.

The pale is not exactly a ghetto, which is

TWO POLISH JEWS IN THEIR PECULIAR RACIAL COSTUME ON THE STREET IN CRACOW

only a portion of a city, but a certain territory circumscribed by the iron hand of barbarism for the habitation of the chosen people. This territory comprises fifteen of the least-productive provinces of all the Russias, and there the Jews are allowed, so to speak, only to pick the crumbs that fall from the tables of the peasants who are the owners of the land in the pale. Nor is the boundary of the Jew's residence coextensive with the pale; for he is forbidden to own land, debarred from living in villages, excluded from engaging in the trade

RUSSIAN JEWISH WORKERS POURING OUT OF AN UNSANITARY, OVERCROWDED, AND INFLAMMABLE FACTORY AT PINSK

of timber and liquor—two of the most lucrative kinds of business in the pale—and even the practising of learned professions is practically denied him.

In order to understand the condition of the Jew in the pale we must first know his neighbor, the peasant. The peasants are exclusively tillers of the soil; they have no artizans, no tradesmen, no professional men; there is no occupation but agriculture—unless drinking *vodka* is regarded as an occupation. Most of them own the land they cultivate, but they possess no more land than is sufficient to give them black bread, made of a mixture of rye, chaff, and potatoes. Their wants are extremely simple—the bare necessities of life. In the fall the well-to-do peasant kills a pig and uses its meat sparingly till after New Year's, when he kills another pig that lasts him till spring. Spring and summer he needs no more than the green earth supplies him with. If the crop is good the peasant saves a few rubles for *vodka*. A poor harvest means a "dry" winter. There are scarcely more than one or two peasants among five hundred who can write their names, and the number of people able to read their native tongue is still less.

Now, it can readily be seen that to live in the midst of a lethargic peasantry of this kind gives no chance to the Jew to engage in commerce with his neighbors. Here and there a Jewish innkeeper used to eke out a

A TYPICAL RUSSIAN RABBI
With the "peiis" or side curls worn by many orthodox Jews

Photographed by Mandelkern
A CHIEF RABBI
Wearing the "talith" or praying-cloth, the sign of his office

livelihood by selling *vodka*, but since 1899 the privilege of dealing in liquors has been taken away from the Jew. The only commercial benefit he can derive from the peasant is to buy his products and to sell them to a larger market. This would perhaps be a source of profit to the astute Jew if there were moderate competition among the buyers. But there are about ten prospective purchasers for every bushel of grain. The struggle for existence among the Jews is extremely keen, and they are satisfied with a

Photographed by Mandelkern
AN IMMIGRANT RUSSIAN JEW
Who came to this country late in life, and remains a foreigner in mind and speech

small margin of profit. Ten copecks is literally enough inducement for the small merchant to strike a bargain by which he runs the risk of losing a ruble. But half a loaf is better than none at all.

The last census shows that there are 5,189,401 Jews in Russia. Of this number there are about 1,300,000 in Poland, and perhaps 10 per cent. who live outside the pale by virtue of having served under Nicholas I. and those "specially privileged." The rest, nearly 4,000,000 people, are pressed

and huddled together in the large cities and towns of the pale.

With the exception of about twenty cities, with populations ranging between 75,000 and 400,000, the Russian towns are uniformly small. A town of 1,000 population—or say 300 adults—is about the average size. I shall use one such town as a type of the rest.

Picture in your mind a succession of thatched log houses clustered together and set along unpaved, muddy streets and unclean alleys; surrounded by forests, waving wheat-fields, and blossoming orchards. To be sure, there is one street where the well-to-do people live. There is no industrial establishment of any kind—no iron-mill, no coal-mine, no factory. There are perhaps 100 of the inhabitants trading with the neighboring peasants; out of these 100 say five per cent. are making a comfortable livelihood, and the rest do well if they earn an average of five rubles (equivalent to $2.57) a week.

Of the rest there are no less than 15 shoemakers, 25 tailors, 30 schoolteachers, 50 storekeepers, 10 timber merchants, 20 carpenters, 5 butchers, 3 blacksmiths, 5 bakers, and 15 tavern-keepers, leaving at least 15 per cent. of the population without any trade or occupation. It is true that notwithstanding this inhuman restriction about three or four per cent. succeed, and as menial help is extremely cheap they live almost in luxury. But at least ninety per cent. of the population live from hand to mouth and in the most abject misery.

The reader will undoubtedly be struck by the number of schoolteachers in a community so small. But I have not exaggerated the number, for I mean Jewish schoolteachers. Debarred from public schools—for only five per cent. of the students of the Russian schools may be Jews—they have been compelled to maintain their own schools as well as their own system of teaching. For many centuries the Christian nations have tried indefatigably to dull Jewish brains, but they have ever found it impossible. Consequently the Jewish school has undergone no changes. It is the same school that taught the ancient Tanaim; the same school that gave inspiration to the Nazarene to lay the foundation for a new creed; the same school that developed the genius of Maimonides, of Spinoza, of Moses Mendelssohn; the same school that was only recently attended by Rubinstein, Antikolski, Frug—the same method of unmethodical learning handed down from generation to generation since the days of Babylonian erudition.

Poor and rich, the desire and ambition of every Jew in the pale is education; the older generation aspires after Talmudic lore, the younger strives after *Haskolo*—a term denoting culture, progress, liberalism. The poor hawker, plodding with his pack among the villages and farms during the six week-days, has only one hope that cheers his gloomy journey—the hope that on his arrival home on Friday night he will find his little Jacob reciting a portion of the Torah, or, if he be old enough, cudgeling his brains over a large folio of the Talmud. "Learning is the best merchandise" is a common expression among the Lithuanian Jews. The Jewish mother rocks her baby's cradle and sings a lullaby: "Sleep, my child, sleep. When you grow older you'll learn Torah. Torah is the best *Skhora* [merchandise]." And in order to learn Torah the boy must attend the *chaider*—the Jewish school.

The school hours are long and lagging, from nine in the morning till ten o'clock at night. The schoolroom is not a many-windowed, airy structure, but a murky hovel, with but two little windows, the panes of which are thickly covered with ice and snow in winter and with dust in summer. There are no spacious playgrounds, for recess is hardly allowed, and when such an indulgence is granted the boys know that there is no better place than mother earth, which is as yielding to their finger-nails within the *chaider* as without. There are plenty of holes in the floorless ground, dug during the preceding semester, and the boys have plenty of buttons to play with.

The dozen or more pupils must sit all day upon crippled benches around the cracked, worm-eaten table, their heads covered. At the head of the table is seated the schoolmaster, a greasy skull-cap on his tousled head, his beard and *peiis* long and matted, a pointer in one hand and in the other pliant thongs or an inflexible cane. Turning his eyes and cane right and left, he gives the little wretches their punishment if they do not respond promptly enough. Under his eye and thongs the youngsters study assiduously from early morning till two

o'clock in the afternoon, and after an hour of play they resume their lessons till nightfall in summer and till ten at night in winter.

The schoolmaster has few pupils. The well-to-do boys would not permit their teacher to have more than four pupils of their own station, and the poorer ones cannot complain, so their teacher very often has as many as ten. But the dreams and studies and stories are the same; the same mystic thought permeates their little brains—rich and poor alike. They all use the same text-book. The Bible is their Homer and Virgil as well as their primer. Their roving, childish minds absorb eagerly the fiery tirades of Isaiah, the lamentations of Jeremiah, the cabalistic visions of Ezekiel, no less than the heroic labors performed by Samson or the wars waged by the kings of Israel. Not until the Bible is thoroughly digested is the study of the Talmud—that wonderful Babylonian compilation—taken up.

At the age of five every male child in the pale begins school. The poor father, whose earnings are $2 a week, pays tuition as eagerly as the rich timber merchant. The poor mother never cares what sort of a meal she gets, or how often she gets a meal, so long as her boy studies assiduously; and as long as there is a cent in the house tuition will be paid. It is only a case of dire distress or when the boy is so dull and lazy that he flatly refuses to attend school that the parents put their heads together and decide to apprentice him to a shoemaker, a blacksmith, or a carpenter. No matter how humble their own station in life may be, they feel very keenly the disgrace of making an artizan of their son. The Jew is proud. If there is any possibility of forcing their son to take up the Talmud and, later in life, to devote himself to the obsolete Babylonian studies, the parents will not neglect the opportunity.

Besides, there is nothing else for the boys to do. There are already too many carpenters and blacksmiths and shoemakers and tailors; there are more storekeepers than customers and more merchants than purchasers. There are a dozen Jews trying to buy every peasant's product. The pale is very limited and very crowded. High-schools and colleges are shut against them. The Government claims that during the last ten years of the reign of Alexander II. the Jews were admitted to the schools without restriction, and the result was that Christians did not get a single prize during those years. To become mechanics is also impossible. The scientific schools and other training-schools are outside the pale, and those within the pale limit the number to five per cent.—no more; very often the percentage is still less.

The prisoners of the pale know well what a grand world there is outside their prison walls. The names of Moscow and St. Petersburg and Kharkoff and Dorpat—the places of learning and polytechnic schools—fill their imagination. They dream of these places while shaking and swaying their bodies over the heavy folios of the Talmud; their minds roam in those places of dazzling light while their voices utter as loudly as they can the words of the holy Torah. The young Jewish students raise their eyes yearningly, imploring to be allowed to step out in the free, to learn some honest trade or profession, to become emancipated; but tyranny thunders, so far and no farther.

Many a child in the pale knows the story of Esther Tampoff. Unlike her pious, God-fearing parents, she believed in advancement and was a devout believer in woman's rights. So one day she determined to take a course in stenography. But as there was no school in her native little town nor in the pale where she could learn it, she finally persuaded her father to let her go to St. Petersburg. There the Czar of all the Russias lives; there the emancipator of the serfs had lived; there the laws for good government are supposed to be made.

Immediately upon her arrival she went to register her passport, according to Russian law. The officer examined the document, turned it this way and that, glanced from the paper to the pretty girl before him, and at length questioned: "Jewish?"

"Yes, Your Honor."

The verdict was quickly rendered. She had overstepped the boundary; holy St. Petersburg had been defiled; in twenty-four hours she must be gone.

The following twenty-four hours were spent in thinking and pondering this problem. She was ambitious and wished to learn a trade at any cost. At last an idea was suggested to her by her landlady.

She put on her smart cloak, wrapped her face in a heavy veil, with a reticule in her

hand, and again stood before the same officer. He smiled, for he had evidently recognized her. He again glanced at her passport and was about to put the same question to her, when she whispered in a scarcely audible voice: "A—a—a yellow card." The officer smiled, cast a glance at her, and made the proper registration. To her name was added a word that meant her degradation. This extended the boundaries of the pale.

Several months elapsed. Esther was progressing in stenography; she had almost finished her course, when she received notice to appear before the registration officer. The same officer faced her. There was an insolent, resentful smile in his vivacious little eyes. "I must revoke your license," he said reproachfully. "You don't ply your 'trade'; you are only studying stenography."

Thus it is that tens of thousands of Jewish young men and women in the pale are idling, without any vocation or trade. The young men, swaying their bodies backward and forward, from side to side, like so many pendulums in a clockmaker's shop, brood over the Talmud or con their lessons in loud, almost tragic voices—the echo of the children of Israel in bondage. It is a picturesque sight to see a synagogue full of Talmudic students wasting their youthful energy on ancient law. Some sing Talmudic rules in elastic barytones and modulated alto voices; some recite the intricate, never-ending, hair-splitting arguments in plaintive, imploring notes; some sing statutes in sweet soprano. Some laugh and some groan; some shout and some hum in hushed voices; some talk and some whisper; some wink and some stare idiotically—an uproar of Talmudic learning.

Sometimes a Talmudic student wakes up and by dint of his energy breaks the barrier and plunges into the world outside. But what is the result? I have never known a young man more energetic, more courageous than David Visotzki. He had swayed his body and, like a ceaseless bell, his voice had been heard in the synagogue all day and most of the night. But one day the veil was lifted. He had got hold of a book which set his mind to thinking. He was possessed of great mental ability, and in a comparatively short period he picked up modern studies. His benefactors soon discovered that he had turned his back on the Talmud. They refused to support him. But why should he fear starvation? He had forsaken the tents of Shem and now worshiped the beauty of Japhet. How enchanting that beauty appeared to him! It almost dazzled his sight. Like all lovers, he forgot eating and drinking and sleeping, and basked in the brilliant sunshine that Nekrassoff and Pushkin and Lermontoff had shed. He tramped to Vilna, the Mecca of cultured Jews. Another year of arduous study brought him to his goal. He was permitted to take the examinations of the sixth grade, which he passed creditably, but he could not join the class—the five per cent. of Jews had already registered at the local gymnasium. He went to Kharkoff, but there, too, the five per cent. had been received. Thus David tramped from gymnasium to gymnasium, but the five per cent. had always preceded him. The world was closed to him.

Nor is it better with the poor workman. The picture of Joseph Rakoffski is vivid in my memory. He looked more like Adam Bede than a Lithuanian Jewish carpenter. His father had been well-to-do; in fact, he was the richest man in his village. The village had formerly belonged to the province of Vitebsk, but in the '80s it was annexed to the province of Smolensk—outside the pale. Rakoffski was given ten days to dispose of his large estate. The peasants knew that he must go, so they withheld their bids. The last day, when the officers came to enforce the law, Rakoffski, his wife, and children wept in chorus, but go they must; the boundary line was changed. So the estate and all Rakoffski's belongings scarcely brought enough for transportation for the family.

Then they settled in a small Lithuanian town, and as the head of the family had neither a trade nor money to start in business he became a hawker. But as he had not been accustomed to that kind of life, he soon contracted asthma, and was compelled to stay home half the time. In order to make both ends meet he apprenticed his son Joseph to a carpenter, with the hope that some day he would help the family. The four years of apprenticeship over, the family rejoiced when Joseph returned home and started a carpenter shop for himself. Everything went very well then. Although the father had become bedridden, Joseph succeeded in keeping the wolf from the door.

Then Joseph reached his twenty-first birthday. He had thought that he was exempt from military service because he was the oldest, but one gloomy day in fall the Mayor notified him that he must present himself as a recruit on October 1st. The death of Joseph's older brother, who had died in infancy, was not properly recorded, and he was therefore still alive so far as the Government was concerned. Hence Joseph was not the oldest and must serve.

The family then pawned their bedclothes —the only valuables left them—and paid a lawyer the last ten rubles for an appeal to the Minister of War. In the meantime, Joseph was advised to secrete himself. He did so, but he was caught. After serving the Czar ten months, during which time his father had died, Joseph fled to America.

Of course there are thousands of Jewish young men in Russia shirking the army. But it is the most natural thing for them to do; they would have been inferior to slaves had they entertained any desire to stay in the army. The fact of their dodging military service in Russia indicates their keen sense of self-respect. How humiliating and degrading it is for any person to devote five years of the best of his youthful life to his king, who offers no chance of promotion nor of attaining military distinction, and does not even give his subject the protection bestowed upon a harmless animal. When a Jew in the Russian Army ever achieves the heroic there is no reward for him, and the day after the term of his service expires he must return to the pale.

Now, to return to the little town of 1,000 population which I have taken as a type. It can easily be seen that the only source of making a livelihood left to the Russian Jews is either by trading with the peasant or by trading with one another. The former is not very profitable because competition is too keen, and the latter is fruitless because the Jew is prohibited from engaging in agriculture of any kind and he is also practically excluded from manufacturing. Consequently the only branch of commerce left him is dealing in commodities such as provisions—a business never sufficient to maintain 5,000,000 people.

Yet, strange as it may appear, a fair percentage of the people within the pale manage to gain a livelihood; some even get rich. There are two reasons for this. The first is the superior intellect of the Jew as compared with the dull, demoralized peasant; the second is the blessing (for the Jew) of the corruption of the Russian Government. The last may sound paradoxical, but the fact remains that the dishonesty of Russian officials is a great advantage to the Jew.

No other nation on earth is as corrupt as Russia. There is absolutely no honest office-holder in the Czar's empire—judges and cabinet ministers not excepted. It is only a question of "how much." The bribe rises in proportion to the rank of the official. It takes 1,000 rubles to satisfy the conscience of the Governor, while half that amount will suffice the next lower in rank. I have personal knowledge of two governors of the province of Vilna who accepted bribes of 1,000 rubles and less. My personal knowledge also extends to the fact that the Governor's secretaries, assistants, and clerks accept bribes as small as twenty-five rubles for "pigeon-holing" documents or for destroying valuable papers. It is no less true that the supervisors of the different districts of the provinces extort money from all the victims they can get into their clutches. It is not at all surprising, then, that the police, whose salaries are no more than about fifteen rubles a month, are easily bribed. The amounts range from twenty-five rubles down to five copecks.

The following story is a fair illustration: One Jew met another at the break of morning entering the wicket of a judge's residence.

"Whither so early in the morning?" asked the first, somewhat surprised.

"To balance the scales," replied the second with a smile. "I am the defendant in an action which will come up before the Judge this morning. The plaintiff has already given the Judge ten rubles, so I am also going to give him ten in order to keep him straight."

This systematic bribery is very often helpful to the Jewish merchant, especially in his dealings outside the pale. The giving of bribes on the part of the Jew is perfectly natural. He is trying "to keep the officials straight." No one would blame prisoners of war for tricking their captors in order to gain freedom. The Jews in Russia are exactly in the same predicament. They apply every possible effort to relax the tyrant's iron grip—everything is fair in war.

The Russian *ukases* against the Jew are

very harsh. How does he bear it, after all? By mitigation. How does he get this mitigation? By bribing the government officials. Thus it is true the Jew is victimized by the government officials, but still in the long run the clever Jew is no loser. He leases or buys a farm, an inn, a forest, or any other "illegitimate" property in the name of a peasant—through the connivance of the government officials—and reaps the profits; that is, as much profit as can be netted after paying the officials their share and the peasant for the use of his name. So this gives the chance to a dozen Jews, in a town of the size described, to become moderately well-to-do and not infrequently even rich.

But the great majority exist and suffer. A poor little thatched cottage, a cow or a goat, coarse daily food and little of it—these the average Jew in the pale possesses. Being shut out from the European world, he necessarily retains his own—an Asiatic world. A long-bearded rabbi, a gloomy synagogue, a rigid creed—these are the essential features of a small town within the pale. The wealthier class, on the other hand, live in comparative luxury. The well-to-do boys get a good education in private schools, or, with due restrictions, in the gymnasiums. Still they live in a community that is more or less Asiatic in atmosphere.

This has practically been the state of affairs in Russian Jewries for many decades. The persecuted race had become so used to this inhuman oppression that they almost found contentment in this existence. Furthermore, their semi-Asiatic mode of living kept them from emigrating; they would rather live in slumber under the yoke of Russian tyranny than under the banner of American freedom. So until the enactment of the notorious May laws (in 1882) and their rigid enforcement only the very poorest and the humblest of Russian Jews emigrated to this country. Few of these early emigrants possessed any Talmudic or modern education, nor did they have any trade. Very often they were the outcasts of the Jewish communities. Only here and there was an intelligent emigrant who had left his native land for political or other reasons. And prior to the '80s only a handful of Russian Jews had come to this country; they were scarcely perceptible here.

But the massacres in Kieff and Yelisvetgrad, followed by the unbearable *ukases* of Ignatieff, twenty-three years ago, stirred up the Russian Jewries. The ten or more years of mitigated persecution during the reign of the noble Czar Alexander II. had given an impetus to the awakening Jew. During this brief period he became modernized, so to speak, and began to feel more keenly the oppressor's knout. The Jew had already had ten years of gymnasium training. The pale was teeming with Russian doctors, lawyers, mathematicians, students, and literary craftsmen. The Ghettos echoed with Hebrew song; there were poets in every Goshen, scribes in every community. They had suddenly shaken off the dust of Asia and bedecked themselves with European civilization. They had dreamed dreams during the '70s, but they awoke early in 1881. Twenty years before, the Jews would perhaps have not felt the shock so crushingly, but education gives sensitiveness. The Tartar's blows began to hurt more than ever.

"To Palestine!" pessimistic dreamers cried. "To America!" said the more energetic element. "America! America!" went from mouth to mouth. Young and old, women and children, all were seized with the "American fever." Students with cockades in their caps, old Jews with long, curly *peiis*, rich and poor, the learned and the ignorant —all, all flocked to this Promised Land.

During the last score of years almost a million Jews have left Russia; most of them have come to America. They are a mixed class: Talmudic students and students of modern languages and sciences, poor hawkers and merchants of the first guild, people without any trade and skilful mechanics—all eager to find refuge under the Stars and Stripes.

But twenty years in the life of a nation or sect are as a day in the life of an individual. Most of these immigrants are still half-strangers; the customs of a new country are very slowly adopted by a newcomer; it is only the very enlightened that can take advantage of the many opportunities offered in the United States. However, the day is not far off when these uncouth Russian refugees will assimilate in thought, in spirit, in patriotism with the descendants of those emigrants who came from England, Holland, France, and Germany.

SOUTH AMERICA AND OUR RESPONSIBILITY

A POLITICALLY INCOMPETENT POPULATION—AN ENORMOUS UNDEVELOPED CONTINENT—THE LACK OF COAL AND IRON AND THE CONSEQUENT ECONOMIC DEPENDENCE—THE ATTITUDE OF EUROPE—WHAT DUTIES DOES THE MONROE DOCTRINE IMPOSE ON THIS COUNTRY?

BY

W. M. IVINS, JR.

OUR interests in South America are becoming more important every day, not only because of new and complicated international relations, but also because of our commerce. Considering our geographical and political relation to these States, our real knowledge of them is inadequate and inaccurate.

We have not sooner succeeded in building up a larger trade and a larger influence in South America because we have been led astray by our *a priori* and illogically formed conceptions. We have reasoned that, since these countries are republics with constitutions modeled after ours and the physical conditions of many of them corresponding very nearly to those of our own country, therefore the national psychology and the economic wants of the people should be the same as ours. But in our hasty view we have left out of consideration the people, their inheritance, their ideals, their habits of life, and their past history. To get a proper conception of them it is necessary that these fundamental things, before anything else, should be taken into consideration.

SOUTH AMERICAN COLONIZATION

The primary fact in South American history and culture is that the continent was never colonized as were the English and French possessions of North America, but was exploited by small and isolated bodies of armed treasure-hunters. The Spanish policy was, moreover, to keep these bands of robbers as separate as possible, every effort being made to pit them one against another. Under Spanish rule all trade and commerce between the five different Spanish viceroyalties were forbidden, and no chance for political preferment was given to the native-born. Manufactures of all kinds were forbidden by law. Everything that was used in the colonies had to be imported from Spain, with which communication was possible only once, or at best twice, a year. The Spaniards were in South America, not because they wanted new land to cultivate or a chance for the unhampered development of individual thought, but to get the precious metals as rapidly as possible; and everything was subordinated to this one idea. The land was divided up into great estates, whose titles ran for one or two lives and carried with them the absolute power over the natives as well as over the land. This system caused the most uneconomic exploitation possible, as every land-holder saw that it was to his best advantage to get all that he could out of his property, land, and people during his own lifetime. A wholesale destruction of life and economic impoverishment followed. Add to these errors the fact that the native-born was debarred from holding land except when a member of an ecclesiastical order, and we have a condition that was bound to bring about economic and social chaos.

THE INFLUENCE OF THE CHURCH

When, in addition to these economic hindrances, the state of morals and of general intelligence brought about by the all-powerful influence of a debased and tyrannical Church is considered, the poor foundations laid for an enlightened and modern civilization can be better imagined than described. No books were to be had except manuals of devotions approved by an inquisition in comparison to which that in Spain and Portugal was an inoffensive and harmless

institution. No intercommunication was allowed by the State, and education of any kind was ruthlessly suppressed as subversive of the governmental and State authority. To be sure, books were smuggled in and read diligently, and passed from hand to hand; but almost all these were the works of men like Voltaire and Rousseau, and the principles taught by them were of the most dangerous kind when it is considered that there was no solid foundation for their reception. Moreover, as these books wholly lacked any constructive or practical side, when the Church lost its hold on the minds of the more intelligent Latin-Americans, there was nothing tangible and affirmative to replace what little influence it had had for good in the country; and an ethical looseness and skepticism became the rule among the educated, while the ignorant remained as superstitious as in the middle ages. Such were the colonial beginnings.

THE FOUNDING OF THE REPUBLICS

The most general misconception about South America is of the manner in which it won its freedom from Spain. So far from being a revolt of the people, as was the case in this country when it revolted from England, it was rather the refusal of the ruling classes to return to their allegiance to Spain, in order that they might exploit the country for their own account. When Napoleon conquered Spain and the Bourbon kings fled, the people of the South American colonies remained true and never acknowledged the French usurper. This threw all the power into the hands of the viceroys and the captains-general, and relieved them for the time of responsibility to any higher authority. When the Napoleonic domination passed and the Spanish Bourbons came back to their throne, their representatives in South America had had a free hand for so long that they did not feel inclined to give up their opportunities for plunder for their personal profit. Moreover, they did not see the necessity for doing so, as they felt confident that Spain was so exhausted after her long struggle that she would be unable to enforce her wishes. The revolutionists were joined immediately by the whole body of malcontents and soldiers of fortune. When one of their armies had succeeded in asserting its own freedom it immediately marched to the next vice-royalty and conquered it. So that from two revolutions, one in Venezuela and the other in Buenos Ayres, armies spread out over the continent and conquered the remaining vast territories in which there had been no spontaneous uprising or aspiration for liberty. The fight lasted longest in Peru, which, paradoxically, as the whole population was extremely loyal, became free of Spain by being conquered by its neighbors.

The so-called liberators talked a great deal about liberty, equality, and fraternity, and drew up countless constitutions that dripped with sentiment and that were nothing in the world but loose declarations of general principles, without any of the necessary qualifications of effective constitutional instruments. The generals of the conquering armies held the land in as strict absolutism as they could, and neglected no means of enriching their private purses. But the country had been so stirred up that they were not able to hold any permanent grip on the administration. Instead of freedom and order there were only anarchy and tyranny. Discontented soldiers who had outgrown the habit of peace were not satisfied to settle down, and the result was that South America was plagued for many years with a universal guerrilla warfare, a genuine war of political *condottieri*.

With the exception of Brazil, which has had the most stable government that South America can boast of, the history of South America has been that of a long series of bloody revolts against the dictators, with new dictators succeeding the old, but never with genuine representative government. And it is only within recent years that any semblance of political and social stability can be said to have been attained in any of the old Spanish colonies, and even now only in the Argentine and in Chile.

President Diaz, of Mexico, has been quoted as saying that revolution is the natural expression of the Latin-American feeling for the necessity for reform. "Despotism tempered by revolt" is an illuminating stock phrase. Others have said that the Latin-Americans' sole idea of getting wealth or power is through the exploitation of the political powers of the State. Whichever view be correct—and there is truth in both—these judgments show the heredity and political background of the people.

THE MONGREL POPULATION

The South American population bears no resemblance to any other in the world. In the United States we have been accustomed to congratulate ourselves on the new composite race that has been produced by the mixture of many bloods, but in Latin-America the unprecedented mixture of races has resulted in a general breeding down. In Europe there are only three distinct language stocks; in South America there are between fifty and a hundred different ones, and each belongs to a tribe ethnologically distinct from any other. As the European colonists did not to any great extent take their wives with them, they married native women. From this wholesale miscegenation there sprang up the greatest body of mixed breeds of radically distinct races in the world. Into Brazil and the northern States many Negroes were imported, and they, too, mixed with the others, so that today on the east coast there are far more mulattos and mestizos than whites, and more pure blacks than all others put together. It naturally follows that there is no race problem as we understand it in this country. The Argentine is the only country in South America where pure white blood may be said to be the rule, as the Argentine aborigines in many ways resembled the North American Indians and have shown the same inability to subsist alongside of the white man or to merge with him. In Brazil there is a general indiscriminate mixture of races and breeds. In many of the countries the uncivilized Indian is still a very large part of the population. In these the pure white is found only scattered in small numbers along the seaboard, while the inland population is almost exclusively of Indian and mixed blood. The South American population as a whole is increasing very slowly, and Brazil even refused to accept the figures of its last census report because they showed that the population had actually decreased instead of increasing during the last ten years.

UNSTABLE IMMIGRATION

Immigration of late years has brought to the south and east coast many Germans and Italians, who almost without exception have engaged in pastoral and agricultural pursuits. The Argentine, which had received the greater part of this immigration, in the forty-three years before 1899 received a little over 2,550,000 immigrants. The Italians are rapidly joining the moneyed class in the Argentine, but most of them are merely unskilled laborers, who are used in the harvesting and clipping. A great number of Italians go to the Argentine only for the crop season, and then immediately return home with all their wages in their pockets to take part in the harvesting at home. So important has this shifting laboring population become that there are several lines of steamers whose main profit comes from its transportation.

There have been some settlements of Welshmen, but they have not been successful. The Hirsch foundations have started some Jewish colonies in the Argentine, but they, too, have met with failure.

ROADS AND RAILROADS

Internal means of communication are poor, as the greater part of the land is still an unbroken wilderness. There are, to be sure, many great water systems, but few of the rivers run through country that can be cultivated, the riparian country being in most cases swampy and covered with impenetrable forests. There are absolutely no good roads, most of the land lines of communication being nothing better than beaten mule trails. In all the States there are governmental highways, but their total mileage is ridiculously small and they are still in a sixteenth-century condition. The railroads are due almost entirely to foreign enterprise, and in consequence are owned abroad, the great majority being controlled by English capital. There are, according to the latest statistics, about 26,000 miles of railroad in operation, but except in the Argentine, which has 14,000 miles, they are all short lines whose service is usually intermittent and poor, and would be intolerable in this country. Brazil ranks after the Argentine, having 8,718 miles nominally open for traffic, almost all of which is in the south in the agricultural districts. She is followed at a distance by Chile, which is said to have 2,900 miles of line. At the foot of the list are Paraguay with 156 miles and Ecuador with 90 miles in operation. The telegraph lines are about three times as long as the railroads, and are owned some by the governments and some by private companies. South America is connected with Europe by

three cables and with the United States by two, all which are owned by European and American capitalists. Telephones have been introduced in a small way in a few of the more important cities only. The tram-car was welcomed everywhere, and in comparison there are many more lines of tramway than of steam railroad. In a few places trolleys have superseded horse-cars, but coal is a necessity and has to be imported at high prices. Electricity is at an economic disadvantage except where it can be produced by water-power. In a few of the more important cities municipal lighting systems have been installed, but here again the great cost of coal has prevented much development. The general system of police, of peace, highways, lighting, paving, sewerage, and sanitation is rudimentary and thoroughly inefficient.

PRODUCTS AND EXPORTS

As coal and iron are nowhere to be found in large or commercial quantities, South America has no important manufactures. All manufactured goods have to be imported. The exports are crude products, and are chiefly coffee, rubber, hides, wool, meats, sugar, nitrate of soda, cotton, cacao, fruits, tobacco, sisal, coca, cinchona, dyewoods, nuts, silver, and copper. Grazing is today the most important South American industry, and it is almost wholly confined to the Argentine, whose wool clip is now one-fourth of the world's supply, and whose trade in hides and meats, because of the introduction of cold storage, is rapidly increasing. Brazil's forests supply rubber, cacao, coca, cinchona, dyewoods, and nuts; and rubber, the most important of these, is apt to fall off in the future because of the uneconomic methods of gathering it. Brazil is also the greatest source of the world's supply of coffee. Her production of sugar is rapidly increasing, and if cotton were to continue at its present high price she would be able to become a very strong competitor in its production. Chile has for her most valuable assets the nitrate fields, and also has a large trade in copper, with some wool.

FINANCIAL CONDITION

The condition of the foreign debt of a country is usually one of the best indexes of its political stability and economic health. In all of South America there is but one State whose funded debt can be said to be on a safe basis, and that is Peru, where a very peculiar situation exists. The reason for this is that several years ago Peru was so hopelessly in arrears on the payment of the interest on its debt that it despaired of ever being able to meet its obligations, and made what is known as the Grace-Donoughmore agreement. By this it was arranged that the Peruvian Corporation should secure the cancellation of the funded debt of the country in exchange for many valuable franchises, by which it got complete control of the mines, the drainage system, and the railroads. But both parties, the Government and the corporation, have refused to live up to their agreements, and there is now a deadlock between them. Of the remaining nine countries, exclusive, of course, of the three Guianas, over half are badly in arrears in the payment of the interest on their national debts.

As all the countries, except Uruguay, are flooded with depreciated paper currency, their internal finances are in an unstable condition. In Colombia the forced paper has fallen in value until it has reached a position between one and two per cent. of its face value. As no one can tell from day to day what exchange is going to be, business suffers everywhere.

South America today is an economic dependent of Europe. The Argentine is a great source of revenue to Italy, which supplies its unskilled labor, while the English own, with the exception of several German and Italian lines, practically all the steamships that trade there, and control the vast majority of the railroads, tramways, and large agricultural and mining companies. Chile may truthfully be said to be practically as much a British colony economically as if it were under the British flag, while the situation in Peru has already been explained.

THE FUTURE

The fact is that all of South America (except a certain part of the Argentine, and the city of Rio de Janeiro) is beyond calculation behind western and central Europe, the United States, and the principal English colonies in economic evolution, political development, and intellectual progress. When one considers its possibilities and its performance, one gets the impression of a vast

continent almost literally going to waste. Its condition suggests the following questions, pertinent in this day of aggressive foreign policies:

Can its own people ever put it and keep it abreast of the more highly civilized States, or range it on the side of the fittest in the international struggle for existence?

If they cannot do this, is the rest of the world going to permit a whole continent to lie fallow?

The South American peoples in the future will be obliged either themselves to make the most of their continent or to step aside and permit the world, with overflowing populations and affirmative foreign policies, to administer it for the world's best results. In history there can be found no warrant for the belief that the world will allow a latently rich continent simply to lie fallow, occupied and controlled by the ignorant and the weak, the unprogressive and the incompetent.

The Monroe Doctrine has remained practically unchallenged for three-quarters of a century, because we and the great European powers have been occupied with internal problems. But today the question of South America's future place in the world is rapidly becoming one of the imminent international problems. "The partition of South America" is already occupying the thought of many European statesmen and publicists, particularly in Germany, and not a little in England. The destiny of the southern half of this hemisphere is one of the greatest problems that awaits solution by the new century. The Monroe Doctrine will not be able to condemn a whole continent to comparative sterility, and unless either the South Americans or the United States, taking charge of the continent, make it productive, European intervention or conquest will surely come.

Our statesmen have delicate work ahead of them, and there is nothing more important for the determination of our policy than an exact and precise knowledge of the national psychology of the South Americans, and the truth with regard to the actual, and not merely apparent, state of their political institutions, their economic development, the possibilities of their continent, and their own capacity and willingness to develop these possibilities.

A BRITISH VIEW OF AMERICAN SCHOOLS

THE UNITED STATES SPENDS VAST SUMS ON SCHOOLS, BUT IT DOES NOT SPEND ENOUGH—THE GREAT EVIL IS THE LACK OF CORRECT SPEECH

BY

ALFRED MOSELY, C.M.G.

(HEAD OF THE MOSELY COMMISSION)

TOGETHER with a commission of thirty English educational experts, I have just completed an investigation of American schools. The most striking facts I have gathered are these:

1. That the people of the United States spend a marvelous amount of money on their public schools, endowing education more lavishly than any other people in the world.

2. They do not spend enough. The salaries to teachers are not sufficient for the service the country desires and should have.

Our tour of investigation began in New York in October of last year. The previous autumn a commission of British trade-union representatives made a tour of the industrial centres of the United States on my invitation to study industrial conditions—a trip the results of which have already been published in this magazine. The investigations by this industrial commission and the recent educational commission were part of a single plan formed a number of years ago.

While in business in South Africa I had

unusual opportunities to study the work of English and American engineers. The English engineers were much inferior. They slavishly followed conventional principles. They worked by rule of thumb. They lacked initiative. They showed inability in a sudden emergency to grasp the situation confronting them, to put the right machinery to work, to carry the task in hand in a practical way to completion. Often they attacked engineering problems with no more expert sureness and efficiency than any intelligent business man might have exhibited. The Americans, on the other hand, were alert and up to date, instantly equal to any occasion that might arise. In emergencies they knew at once what to do and what kind of machinery to use; and whenever they attacked a problem, after swiftly arguing the pros and cons they carried the matter through in the straightest way with professional certitude of method. The English engineers had been poorly trained; the American engineers well trained. American business men whom I met were quite as alert as the engineers. A visit to the United States convinced me that the secret of this national efficiency lay in the American schools.

As the British Education bill was still in the melting-pot a year ago, I postponed the inquiry I had long planned into the details of the American school system and accompanied the industrial commission on its very fruitful visit. On returning to England I placed the matter of an educational commission in the hands of a committee of which Lord Reay, president of the London school board, was chairman, and Mr. Sadler, late of the board of education, a valuable member. As Mr. Sadler is one of the leading educational experts of Great Britain, it was a pleasure to me that his point of view on the project accorded with my own. This committee drew up a list of the heads of various branches of British education, to whom invitations were sent. One or two letters appeared in the public press protesting that Great Britain could learn nothing from the United States in educational matters, but the thirty gentlemen who accepted the invitation felt that any information they might acquire in the United States would undoubtedly be useful, even though the new British Education bill had fixed for a time the status of public education at home. The commissioners all came open-minded to inquire into the strong and weak points of American education, and to see how far the American system might apply, with modifications, to Great Britain.

We began with a ten days' investigation in New York. Thence we went to Washington, where President Roosevelt made us an interesting address, and then we visited the colored school at Hampton, the schools and colleges of Baltimore, Philadelphia, New Haven, Boston, and Chicago. The party then split. Some went south, some as far west as California, some to Canada. The rest came east by Indianapolis, Dayton, and Pittsburg. The whole country was covered by at least a part of the commission. We are greatly indebted to President Butler, of Columbia University, for a vast amount of assistance. He prepared our itinerary and put at the disposal of the delegates an encyclopedic fund of information. Dr. Maxwell and members of the Board of Education courteously gave us every facility for seeing the New York schools; Mr. Munroe and members of the School Committee did us similar service in Boston; and President Harper and the Board of Education gave us excellent opportunities for visiting Chicago institutions. Everywhere we were met with the greatest hospitality. The delegates, attended and unattended, visited schools to their complete satisfaction, considering the time they had at their disposal.

My own strongest impression was of the amount of money spent on education. East and west it has become quite the fashion for millionaires to make large gifts to colleges, and in every section I visited I found the people lavishing money on their schools. And the expenditure is appreciated. If the buildings and the equipment are on a much more generous scale than in England, there is greater enthusiasm here also. The very atmosphere of American schoolrooms breathes progress. American teachers are more enthusiastic than English teachers; American pupils have a greater thirst for knowledge than English pupils; and there is a closer bond of sympathy here than in England between pupil and teacher.

In essence, the American people have realized better than Europeans the value of education. They have learned to consider

it their primary duty to train themselves for the struggle that modern development entails on the individual. They seem to realize, as the English have not begun to realize, that no boy—and no girl, for that matter—can do without such training.

One especially notable manifestation of enthusiasm I found in New York, Boston, and other large cities. On the East Side in New York and at the North End in Boston the schools in the poorer districts are kept open at night to give the children of the crowded tenements a clean and comfortable place to study their morrow's lessons, with some one to help them on difficult points. The children resort to these evening study-rooms in surprising numbers, and the teachers help them patiently and encouragingly.

Manual training is a very important feature in all the schools of the principal cities for both boys and girls. In England some few schools, laying special stress on the subject, teach manual training. Here in the United States the study is general. And my inquiries serve to show that it helps in the pupil's general development; it offers a change from the other work and it brings out individuality. Serving a need of the United States by turning boys with a mechanical turn of mind to the technical schools, it also develops a practical taste among all the children for the mechanical side of life.

As a whole, the Middle West is more intense in matters of education than the other parts of the country. The schools of the Middle West are newer than the eastern schools and more modern, because they have no traditions to get rid of. There is an even greater thirst for knowledge there than elsewhere, and money is spent to advantage. The schools of Indianapolis are among the best in the country.

I was much struck with the many colleges for the training of teachers. Both east and west are numerous normal schools and such institutions as the Teachers' College at Columbia University; and in the West especially a large proportion of the women graduates of the State universities enter the teaching profession. This training system assures an endless flow of the best class of teachers. In England the proportion of college-bred women teachers is far lower than in the United States, and, on the whole, the grade of teaching by women is lower. But England is considerably better off in its force of men teachers. My severest criticism of the American school system would be that the teaching force lacks men. Few men in the United States go into school-teaching, and these are not the best. The profession in England attracts a distinctly more capable class.

The trouble lies in the salaries. In many cases the actual money pay of teachers is higher here than in England, but reckoning the difference in the standard of living, especially in those articles that are above necessities, both men and women are paid more there than here. Thus men are attracted to teaching in England, whereas in the United States they find better opportunities in other callings. A larger proportion of men would greatly improve the American teaching force, but there can be no such improvement until American communities match the generosity they exhibit in school equipment with generosity in allotting salaries. Nor are the salaries of the women teachers adequate. The people of the United States have an excellent school system because they spend much money on it; they could have a better system by paying more.

The school system I am referring to is, of course, the public-school system. I am not in favor of private schools conducted for individual profit, of which there are more in England than here, because such schools are likely to be conducted for profit rather than for efficiency. Here all classes go to the public schools, with no harmful results, as far as I can learn, and with many benefits. The poorer boy or girl gets some refinement from the more fortunate children; the more fortunate children are in no way harmed. With no distinctions all classes side by side seek the same advantages. And these are many.

In England the average boy of the poorer class goes to work at an early age after a merely elementary education, entering the trade of his father or a trade his father has chosen for him—often independently of the boy's fitness for it. Here the wonderful opportunities for the masses to go on into higher and higher schools and colleges, securing their education free or practically free, render a boy immeasurably better able to choose a calling for which he is fitted. The manual training, too, discovers latent aptitudes. It is safe to say that an American

boy has every opportunity to enter any vocation. In no State can any boy say that he cannot secure all the education he wishes.

The girls, too, have better opportunities here than at home. More of them advance into the higher fields of education. The result is that as a whole American girls are distinctly better educated than English girls—not merely because their parents wish it, but because they have, on their own part, a greater appreciation of education and a greater desire for it.

If American teaching fails in any respect, it is in the matter of inculcating the power of correct and accurate English speech. Again and again I heard children in the public schools give ungrammatical answers quite unchecked. The teachers seemed content to receive correct answers to questions in geography or history instead of being dissatisfied until the correct answer had been given in correct language. This was the one serious defect I found in the public schools. The buildings were better in New York and Boston and Chicago than in London; the sanitation and ventilation were better; and I found highly commendable facilities offered in the higher schools for the pupils to purchase healthful food at low prices during the school recesses. The seats and desks are better. Greater attention is devoted to providing such of these as have been scientifically found best fitted for health and comfort. But the speech of the pupil is often bad.

There is, moreover, too little attention paid, in my opinion, to athletics. In England the taste for athletics is carried to extremes. A schoolmaster is not chosen, as here, solely on his academic qualifications: he is asked what his record has been in 'varsity cricket or football, and whether he has taken his "blue." He is expected then to foster the athletic tendencies of his boys. All the boys take part in one sport or another. Here, in the high schools and colleges, small teams and crews of picked youths monopolize the athletics; the other students merely look on. A wider athletic activity would be better.

The most interesting sights we saw on our tour were in the schools of the great cities, especially New York and Chicago, in which the newly arrived immigrant children were receiving their first lessons in Americanism. It was wonderful to see the raw peasant lad from Russia or Germany in a few months after landing sitting in an American school and singing "My Country, 'Tis of Thee." We saw hundreds of these who in a marvelously short time had caught the American spirit and who were daily saluting the flag, considering themselves part and parcel of the American nation. The teachers showed immense enthusiasm in teaching these little atoms of humanity, and the musical marchings in and out of school, the flag salutes, and the songs they taught the children were decidedly effective devices to engender discipline and patriotism. The same spirit is visible everywhere. The United States is handling the immigration problem so successfully by assimilating the second generation of immigrants in the public schools that the American people may well relieve themselves of any fear on the score of excessive inpourings of untrained foreigners. It is an achievement the United States has every reason to be proud of.

Whether it is advisable or possible to adopt in Great Britain any parts of this or other features of American education, the delegates will declare with some authority in their reports next spring. As a layman with no claim to expert educational knowledge, I should say that the American excellences are well worthy of being grafted on the present English systems. After all, we must judge by results. The public education of the United States has had a large part in placing the country in the first rank in the world, industrially and commercially, at the same time maintaining a high ideal of civilization. There is some disposition on the part of English observers to attack American materialism. What materialism I have seen is largely ambition. There is no more of the "dollar-hunting" spirit in the United States than in other countries. The humanities, culture, refinement are not neglected in the schools and colleges. Research and scientific inquiry of the more advanced kinds are perhaps not so highly developed here as abroad, but there is no serious deficiency, and swift progress is being made. England might well learn lessons from the way in which the United States has worked out its problem.

In brief, I might sum up my impressions of American education by a single personal note. I have placed my two sons in the Hopkins Grammar School at New Haven to prepare for Yale.

A STORY OF COMMERCIAL ADVENTURE

BY

ULYSSES D. EDDY

JUST after the Civil War a big, bustling, breezy fellow turned up in Rio de Janeiro. He was over six feet tall, had a huge sandy beard that widened over his chest, a keen yet humorous eye, and a way with him that demanded attention. He was a ship-carpenter from Philadelphia.

Rio is on the southern tropic, about halfway between the equator and the capes, and its big, well-protected harbor is a good refuge for "lame ducks," as they call vessels that get into trouble in the South Atlantic and limp into port to repair damages.

In those days there were fine pickings for the repairers of these "lame ducks," and big bills for the underwriters, and sometimes it was a good thing to get on a "board of survey," for good ships are sometimes found unseaworthy and sold to a favored bidder. A big American clipper on its way around the Horn had run up against rough weather and put into Rio leaking and partially dismasted. She was one of the victims of a board of survey, and was sold for a song to a shrewd American, who sent to the States for skilled mechanics to put her right again. Bolger was the boss of the repair gang.

In an astonishingly short time that clipper spread her sails and put to sea as good as new. But Bolger stayed. Other craft needed repairs, and he wasn't bashful in pressing his claims to do the work. In a year he had established a business and it paid. But, after all, it was a limited business. He made up his mind to keep an eye out for something better.

Miles back of Rio is a range of mountains, conical peaks side by side like organ-pipes. The trade-winds, laden with moisture, are squeezed dry by these high hills, and the rain clothes them in trailing draperies; the heat is a damp and sticky heat that soaks the energy out of the people. Other fantastic mountains immediately overhanging the city throw out spurs that reach nearly to the bay, and the houses are crowded in the level spaces between and along the shore.

A single avenue of good width finds its way between bay and hills and is the only artery of communication. In those days its pavement was crowded with vehicles—highly varnished French carriages occupied by highly powdered Brazilian ladies; quaint, two-wheel, bellows-top cabs of the country, pulled by nondescript animals; antique stages lumbering after bored-looking mules —all moving back and forth between the rows of houses, past the little parks, and through a perspective accented by royal palms looking like thick telegraph-posts with feather-dusters on top. Nobody walked but the slaves and the very poor.

Bolger traveled up and down this avenue many times and pondered. There would be money in a street-car line—that he knew. But how much? He set to work to study the traffic. Day after day and night after night he passed upon the street, counting, counting, at different points and different hours. Gradually he accumulated figures showing the volume of traffic. They were astounding. And he made up his mind to build a street-car line.

Men of Bolger's type soon make friends. By this time he knew the members of the foreign colony, including the small group of Americans, and his big heart and rugged sympathies made him foremost in looking out

for and helping the human waifs, strays, and derelicts that were always turning up.

Johnston, a bright young newspaper man, had been sent out to report the interminable Paraguayan war which was dragging along on the Parana, and in Montevideo he fell in love with one of the many good and beautiful women with which God blesses that country. He married her, and soon after his paper seemed to get tired of the Paraguayan war and his drafts weren't paid; so he borrowed enough money to go home, and got as far as Rio with his young wife. While waiting there for the New York steamer the fever found her, and in a few hours she died. Bolger arranged the swift funeral and tried to comfort the desolate man, but he turned for forgetfulness to a Brazilian equivalent of whisky—of seven-devil power. Johnston, dead-broke and rapidly killing himself, was taken in hand by Bolger. He put him upon his moral legs; he gave him money and a ticket home, saw him off, and straightway forgot the matter.

In order to build his street-car line he must have a concession from the municipality, so he went to work to get it. In that community initiative, energy, and enterprise are all imported. He had brought a large supply of all three. He used his friends to the limit with merciless good humor. He was to be seen bending his great bulk over small and deprecating Brazilians and shaking an earnest fist at them. No man or place was sacred from his intrusion. Directness, energy, and audacity were his weapons, and it was a contest between these qualities and the courteous inertia he was bound to overcome. It was impossible for people to say "no" to him, and he would not let them forget that they had said "yes." Finally he drove the concession through.

In a country where high-priced coffee raised by slave labor returned an extravagant income there was languid interest in his scheme as an investment. His native friends looked with admiring wonder upon his goings on, they thanked him profusely for his generous offers, and they gave him vague promises, but he raised no money.

If he couldn't get it in Rio he could get it in Philadelphia. He got on board the first steamer sailing for the States and talked street-car line at the table and in the smoking-room. He proclaimed aloud his great luck and his coming riches while the old side-wheeler splashed her leisurely way northward.

As soon as he landed he hurried to Philadelphia. His life there had begun in poverty and hardship. He had struggled to better himself; finally he got a job in a shipyard and learned the trade. His employers used to say he was the best man in the yard. He was proud of coming back with the potentiality of untold wealth in his pockets; he would gladly share it with the wise and eager Philadelphians who would so briskly seize the opportunity. He found the city moving on its tranquil way—unhurried, unchanged. He tried to come in touch with his eager Philadelphians. Not one would even look at the map and see where Rio was. They did not like his loud voice and assertive manner. They would have no dealings with him.

He had brought some letters from Americans in Rio to people in New York. He went there and continued his weary hunt for other people's money. After many days he got in touch with people who consented to look at the map—would even wade through the sheets and sheets of statistics of travel, and would look at the concession and ask questions about it. It was heart-breaking work, and it was only after months and by his ceaseless energy that a little group was made and $22,000 were available.

The legal side of the business was pushed along, the company was organized, and he formally transferred his concession. In a day or two the money would be paid in. He must begin to buy materials at once. He was so intent on doing the job that he had paid no attention to the reward, for there was enough for everybody, and he would soon be a rich man

Bolger was staying at the Metropolitan Hotel, on Broadway, long since vanished. One night after dinner he strolled into the billiard-room to while away the time. A man playing billiards at a near-by table looked up and saw Bolger. "Don't you remember me? I'm Johnston." It was the man he had helped in Rio. "I knew you were here. I've been wanting to see you. You didn't know I had an interest in the street-car line? Well, I have. Never mind how I got it. But I want to tell you those fellows are not playing fair with you. They say you haven't any agreement with them, and that you're no use to 'em, anyhow. They'll just give you a little something, but you won't be in it. By God! it's rough! Say, I'll turn you over my interest, and you go to the meeting tomorrow morning. I guess you know how to fight for what you ought to have."

So the certificate of interest was endorsed over, and the next morning the uninvited Bolger turned up at the meeting with fire in his eye. He wasn't an easy man to

ignore, and he had his vigorous way. When the meeting closed he owned an important share in the enterprise and Johnston's interest had been doubled. The scared look in the faces of his associates was gradually changing to one of wheedling deference.

Then the days were crowded with work. There was but little money, and materials for only a mile of track were bought. Rails, cars, ties were all rushed to Rio, and Bolger was no laggard in getting back. The day after his return work began, and it didn't take long for him, even in that land of deliberation, to put down a mile of road. It began at the Rua do Ouvidor, the street of fine shops and of promenading men, and found its way between the bay and the hills and through the residence district.

When the first mile was done and ready to operate there was a "function." High officials attended, and there was speechifying very complimentary to Bolger. He responded in his private brand of picturesque Portuguese, and the road was declared open. All Rio seemed determined to ride. The authorized fare was ten cents' gold, and from the first hour the road was overwhelmed with traffic. A continuous stream of dimes flowed into the treasury and mounted into a huge daily income. Under the powerful push of the man, building never ceased until many miles of road were finished, and each mile added to the volume of dimes. All the extensions were paid for out of these dimes. Not a dollar beyond the original twenty-two thousand had been contributed by the owners.

Now, at this time Rio was cursed with a minor coinage in the form of huge copper disks, so heavy as to make it profitable to melt them down in the times of high-priced copper, and requiring a slave to carry the money-basket on shopping expeditions. Gradually people fell into the way of using car-tickets for change. Hundreds of thousands of dollars' worth of tickets were bought for this purpose, and the company found its profits enormously increased by the use of this money and the wearing out and loss of the frail slips. The company owned a mint, coining paper tokens and selling them for a high price in gold and redeeming such as were not destroyed in rides on the street-cars.

Wealth poured in upon the stockholders. The results of the enterprise were dazzling. Millions were offered for the stock, and hundreds of thousands were paid in dividends. As there was only one avenue between bay and hills, it was impossible to build a competing road. Street-car lines became the rage, and they were constructed in all other directions. The very Brazilians to whom Bolger had offered interests which they had declined with thanks fought in the local exchange for stock.

Five years after Bolger, ship-carpenter, had stepped ashore in Rio with a chest of tools, Bolger, the capitalist, sat upon the broad veranda of a great house. In front Botago Bay greened in the shallows and whitened in the trade-wind. Marvelous mountains were in the field of view; an avenue of palms led to the gateway, past which tinkled street-cars laden with passengers. The house was a centre of hospitality, the owner a principal figure in the community and the close friend of an emperor.

HOME INDUSTRY VERSUS THE FACTORY

THE announcement that the famous home toy industry of Erzgebirge or Ore Mountain, Germany, is surely drifting into economic difficulties on account of the inroads of the large manufacturers, brings to mind the startling growth of the toy industry, at once the delight and the chronicle of society. The American child that carelessly handles the very cheapest toy hardly realizes that it was probably produced after infinite toil in some far-away German peasant home for a compensation that in America would appear almost absurd. Slowly the patient workers who have worked for years in the seclusion of their foreign houses making the knickknacks that have driven away childish care are being forced into new employment. The great Paris doll competition of 1901, when prizes were offered for unique novelties in toys, has resulted in an annual competition and the production by machinery of many new and startling diversions.

Doll-making is the great toy industry of France, after all, and a small army of men and women are busily engaged in making the millions of dressed dolls that form the annual output. The largest and most pretentious toy-makers are those who work in metal. In the making of a metal toy selling in our country for five cents a formidable machine is necessary. The making of india-rubber toys involves much expense and labor. They are only made in very large quantities. And this wholesale manufacture is displacing an historical home industry in Germany. Again the machine has superseded the man.